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WOOL.

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# WOOL MANUFACTURES, ALSO HOSIERY AND KNIT GOODS, SHODDY, AND FUR HATS.

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The Eleventh Census completed the statistical record of the wool manufacture in the United States for its first hundred years under the factory system. The Twelfth Census closed the record for the Nineteenth century and established the point of departure for the Twentieth.

At the census of 1890 the statistics of the industry were presented more in detail than ever before. The schedules prepared for the census of 1900 were in most respects identical with those used ten years earlier. The returns received were generally prepared with care, and with a fair understanding of the purport of the inquiries.

The expert special agent desires to express his appreciation of the uniform courtesy shown by manufacturers in the preparation of their reports, and in response to his requests for information needed to complete reports lacking in some details, or where through misunderstanding the questions were not properly answered.

Care was taken at the Eleventh Census to properly group, so far as possible, the statistics of the various branches of the industry according to the general character of the production of mills, and the tables then prepared were made the basis of improved tables in 1900.

The industry is divided into groups, as in 1890, under the general heads of woollen goods, including carding mills; worsteds; carpets, other than rag; felt goods; and wool hats; and, separately given, is a report on wool scouring and wool pulling, which has not hitherto been attempted. The statistics of the hosiery and knit goods manufacture are presented in connection with those of the wool manufacture in certain tables for comparative purposes. Formerly the larger proportion of the raw material consumed in this industry was wool, so that it was proper to combine the reports of this industry with those of the wool manufacture. At the present time the cotton fiber predominates so greatly that the industry can hardly be considered as a branch of the wool industry, but should be treated as an independent or cognate industry. The manufacture of shoddy and the recovery of the waste products of the wool manufacture, which are currently known under the general term "shoddy," was reported upon the

special schedule with the wool manufacture. The statistics are contained in this report, but are separately given. The fur hat manufacture is also reported herewith, not as a part of the wool manufacture, but because the two are closely related in raw material and products, and because the fur hat manufacture has largely superseded the wool hat manufacture. Heretofore the reports for fur hats have been so combined with those for straw and silk hats that it has been impossible to obtain satisfactory statistics of the industry.

Table 1 shows the comparative statistics of the wool manufacture, including hosiery and knit goods, 1880 to 1900, with percentages of increase.

TABLE 1.—WOOL MANUFACTURE, INCLUDING HOSIERY AND KNIT GOODS, COMPARATIVE SUMMARY, 1880 to 1900, WITH PERCENTAGES OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.			PER CENT OF INCREASE.	
	1900	1890	1880	1890 to 1900	1880 to 1890
Number of establishments .....	2,335	2,489	2,689	16.2	17.4
Capital .....	\$392,040,353	\$296,494,481	\$159,091,869	32.2	86.4
Salaries of officials, clerks, etc., number ..	7,304	25,273	( <sup>3</sup> )	38.5	.....
Salaries .....	\$9,580,293	\$5,742,548	( <sup>3</sup> )	66.8	.....
Wage-earners, average number .....	242,495	213,859	161,557	18.4	32.4
Total wages .....	\$82,292,444	\$70,917,894	\$47,889,087	16.0	49.6
Men, 16 years and over .....	104,525	93,396	75,459	11.9	28.8
Wages .....	\$45,803,600	\$39,743,431	( <sup>3</sup> )	14.0	.....
Women, 16 years and over .....	117,706	105,770	66,814	11.8	58.3
Wages .....	\$33,793,231	\$28,889,244	( <sup>3</sup> )	17.0	.....
Children, under 16 years .....	20,264	14,693	19,284	37.9	128.8
Wages .....	\$8,195,613	\$2,285,219	( <sup>3</sup> )	39.8	.....
Miscellaneous expenses ..	\$23,929,797	\$19,249,508	( <sup>4</sup> )	24.3	.....
Cost of materials used ..	\$232,280,986	\$203,095,572	\$164,871,551	14.3	28.6
Value of products .....	\$392,478,050	\$337,768,524	\$267,252,913	16.2	26.4

<sup>1</sup> Decrease.

<sup>2</sup> Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table.

<sup>3</sup> Not reported separately.

<sup>4</sup> Not reported.

The whole number of establishments reporting on the special schedules for wool manufactures and hosiery and knit goods was 2,653, viz, 1,035 woollen mills, including carding mills; 186 worsted mills; 133 carpet manufactories; 36 felt goods factories; 24 wool hat mills; 921 hosiery and knit goods factories; 171 fur hat facto-

## MANUFACTURES.

ries; 105 shoddy mills; and 25 wool-scouring plants; also the 17 educational, eleemosynary, and penal institutions shown in the following table. One hundred and fifty-three establishments were idle during the census year, 117 of which were wool manufactories and 36 were hosiery and knit goods mills. The fur hat factories, shoddy mills, and wool-scouring establishments, given above, are not included in the general tabulation for the wool manufacture (Table 29), because such mills were not so reported in 1890. Deducting these, and the 17 educational, eleemosynary, and penal institutions, and the whole number reported for the wool and hosiery and knit goods manufactures was 2,335. At the census of 1890 a total of 2,489 similar mills was reported. The decrease in number was 154, equal to 6.2 per cent. That this does not indicate any curtailment of the industry is shown by Table 5, giving the machinery of the wool manufacture, 1880 to 1900.

Table 2 is a summary for wool manufactures, including hosiery and knit goods, in educational, eleemosynary, and penal institutions, 1890 and 1900.

The work carried on in educational, eleemosynary, and penal institutions that employed the wool or cotton fiber was confined largely to the hosiery and knit goods manufacture. Only 4 of these institutions manufactured woolen goods in 1900. These were located in Iowa, Massachusetts, New York, and Texas. The 17 institutions reporting had an aggregate capital of \$588,305, of which \$169,765 was invested in machinery, tools, and implements. They employed 71 superintendents, managers, and clerks, and operated 17 sets of woolen cards, 7,472 woolen spindles, and 2,936 cotton spindles (of which 64 were doubling spindles), 79 broad looms, 22 narrow looms, and 96 hand looms on woolen

or mixed goods. They consumed 379,319 pounds of wool, 123,747 pounds of cotton, 400 pounds of woollen yarn, 470 pounds of merino yarn, and 890,450 pounds of cotton yarn, and other materials, costing in all \$450,905, and produced goods to the value of \$644,607, of which \$269,764 were woollen goods, consisting principally of flannels, blankets, and satinets, and \$374,843 of hosiery and knit goods.

TABLE 2.—WOOL MANUFACTURES, COMPARATIVE SUMMARY, INCLUDING HOSIERY AND KNIT GOODS; EDUCATIONAL, ELEEMOSYNARY, AND PENAL INSTITUTIONS: 1890 AND 1900.

STATES.	Year.	Number of institutions.	EMPLOYEES.		Miscellaneous expenses.	Cost of materials used.	Value of products.
			Total number.	Total amount paid.			
United States..	1900	17	584	\$113,778	\$24,191	\$450,905	\$644,607
	1890	14	1,419	88,279	(1)	279,800	462,585
Illinois <sup>2</sup> .....	1900	3	481	61,982	9,305	84,283	196,990
	1890	.....	.....	.....	.....	.....	.....
New York <sup>3</sup> .....	1900	3	27	25,123	(1)	143,596	178,924
	1890	3	604	24,697	(1)	58,708	97,995
Pennsylvania <sup>4</sup> .....	1900	3	8	10,708	7,281	82,658	55,978
	1890	3	432	36,060	(1)	132,181	196,306
All other states <sup>5</sup> .....	1900	8	68	14,965	7,605	190,878	212,715
	1890	8	388	27,522	(1)	93,911	168,284

<sup>1</sup> Not reported.

<sup>2</sup> Institutions in Illinois: 1900, hosiery and knit goods, 3.

<sup>3</sup> Institutions in New York: 1900, hosiery and knit goods, 2; woollen goods, 1. 1890, hosiery and knit goods, 3.

<sup>4</sup> Institutions in Pennsylvania: 1900, hosiery and knit goods, 3. 1890, hosiery and knit goods, 1; carpets and rugs, other than rag, 2.

<sup>5</sup> Includes institutions distributed as follows: 1900, Iowa, 1 (woolen goods); Massachusetts, 1 (woolen goods); Missouri, 1 (hosiery and knit goods); New Jersey, 1 (hosiery and knit goods); Ohio, 1 (hosiery and knit goods); Tennessee, 1 (hosiery and knit goods); Texas, 1 (woolen goods); Wisconsin, 1 (hosiery and knit goods). 1890, Maryland, 1 (hosiery and knit goods); Minnesota, 1 (hosiery and knit goods); New Hampshire, 1 (hosiery and knit goods); Ohio, 2 (hosiery and knit goods); Texas, 1 (woolen goods); Virginia, 1 (hosiery and knit goods); Wisconsin, 1 (hosiery and knit goods).

## THE WOOL MANUFACTURE.

Table 3 presents a comparative summary of the wool manufacture as returned at each census from 1850 to 1900, inclusive, with the percentages of increase for each decade.

TABLE 3.—WOOL MANUFACTURES, COMPARATIVE SUMMARY, 1850 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.						PER CENT OF INCREASE.				
	1900	1890	1880	1870	1860 <sup>1</sup>	1850	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870	1850 to 1860
Number of establishments.....	1,414	1,693	2,330	3,208	1,478	1,675	216.5	27.3	27.4	117.8	211.9
Capital.....	\$310,179,749	\$245,886,748	\$148,512,278	\$121,451,059	\$38,814,422	\$31,971,631	26.1	71.8	18.2	212.9	21.4
Salaries of officials, clerks, etc., number.....	4,485	8,652	(4)	(4)	(4)	(4)	28.1	(4)	(4)	(4)	(4)
Salaries.....	\$6,456,495	\$4,057,695	(4)	(4)	(4)	(4)	59.1	(4)	(4)	(4)	(4)
Wage-earners, average number.....	159,108	154,271	132,672	105,071	50,419	45,438	5.1	16.3	28.8	108.4	11.0
Total wages.....	\$57,933,817	\$54,339,775	\$40,687,612	\$35,928,150	\$11,699,680	(6)	6.6	83.6	13.2	207.1	(4)
Men, 16 years and over.....	88,871	78,550	87,942	53,400	29,852	26,559	6.1	15.6	27.2	78.9	12.4
Wages.....	\$36,412,872	\$33,702,231	(4)	(4)	(4)	(4)	8.0	(4)	(4)	(4)	(4)
Women, 16 years and over.....	64,141	64,944	49,107	39,150	20,567	18,879	21.2	32.3	25.4	90.4	8.9
Wages.....	\$19,549,423	\$18,888,174	(4)	(4)	(4)	(4)	8.6	(4)	(4)	(4)	(4)
Children, under 16 years.....	11,696	10,777	15,623	12,521	(4)	(4)	7.6	21.0	24.8	(4)	(4)
Wages.....	\$1,971,622	\$1,754,370	(4)	(4)	(4)	(4)	12.4	(4)	(4)	(4)	(4)
Miscellaneous expenses.....	\$17,329,932	\$15,622,263	(4)	(4)	(4)	(4)	10.9	(4)	(4)	(4)	(4)
Cost of materials used.....	\$181,159,127	\$167,238,987	\$149,160,600	\$124,318,792	\$43,447,048	\$28,831,583	8.3	12.1	20.0	186.1	50.7
Value of products.....	\$296,990,484	\$270,627,511	\$238,085,686	\$199,257,262	\$78,454,000	\$48,608,779	9.8	13.6	19.5	171.3	61.1

<sup>1</sup> Carding mills were not included in 1860.

<sup>2</sup> Decrease.

<sup>3</sup> Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 30.)

<sup>4</sup> Not reported separately.

<sup>5</sup> Not fully reported.

<sup>6</sup> Not reported.

The table shows that there has been a satisfactory increase in the industry in capital, wage-earners, wages, cost of materials used, and value of products during the half century. The greatest increase in value of products, \$125,803,262, and the greatest percentage of increase, 171.3, were during the decade ending with 1870. This was also the period of greatest increase in establishments, wage-earners, wages, and cost of materials used. The extraordinary growth during this decade was due largely to the demand for woollens for army purposes and to the cotton famine.

#### CONDITIONS IN 1900.

The year 1900 was an unfortunate one for an official investigation of the wool manufacture. It was a year of unusual fluctuations in prices, and of severe losses in the wool market. The machinery in many mills was only in partial operation, or run on part time, and production was on a scale less than normal. Like the preceding year, it was marked by unusual conditions, both as to the chief raw material and manufactured products.

A remarkable speculative rise in the price of wool occurred in 1899. Ohio XX wool, which was quoted in April in Boston at 26½ cents a pound, at the close of the year had advanced to 35 and 36 cents, or over 36 per cent. During the same period Port Phillip (Australia) average greasy wool advanced in London from 20 cents to 35 cents, an advance of 75 per cent. These advances were followed by a sudden collapse in the market abroad, which was reflected here by a fall in Ohio XX wool to 29 and 30 cents in June, 1900. The Bradford (England) Observer, in its review of the wool market in December, 1900, says of this period:

If a vote were taken on 'Change to-day, the answer would be almost unanimous that 1900 has been the worst year we ever had. To understand this year we must go back at least two years. About the middle of 1898 it began to be clear that the commerce of the world had entered upon a period of expansion. Toward the end of 1898 business began to look up, especially in those goods which are made from merino, and prices began slowly to harden, and at the London sales it looked as if, after all, there might be a shortage of merino. Men said that we were entering upon an era of higher prices. They lost their timidity, and toward the end of the year became absolutely reckless. The value of 60's Botany tops, which had been 20½d. before the rise began at the end of 1898, had in twelve months risen to 34½d. per pound. The high price killed the trade, and there was collapse. In ten months, during which there was very little selling, the price fell to 18d. At the end of last year the trade of the whole world was in a prosperous condition, and the tremendous collapse which occurred took everybody by surprise. The plain lesson is that wool is wool, whether it be merino or crossbred and that no class of raw material can for long maintain a price which is out of all proportion higher than another.

These sudden changes in wool prices, and the strenuous competition for business, led to the failure or liquidation of many large and until then prosperous concerns, and was largely instrumental in bringing about consolidations of establishments under one management.

Two important changes in the tariff laws occurred

during the decade. Under the first—the law of 1894—wool, which had been dutiable at nearly the same rates for twenty-seven years, was put upon the free list, and imports of manufactures of wool which had been for the same period subjected to a duty, partly specific and partly ad valorem, were placed on an ad valorem basis. The second change came with the tariff of 1897, when wool was replaced on the dutiable list at nearly the same rates as formerly, and the compound system of duties again applied to woollen goods.

#### IMPORTS OF WOOL.

The effect of these laws on the imports of wool was very marked, as is shown in the following tables.

The imports of wool for the seven years ending June 30, 1890, under the tariff law of 1883, were:

	Total, pounds.	Yearly average, pounds.
Class 1.....	160,497,817	22,928,188
Class 2.....	45,285,291	6,469,327
Class 3.....	581,704,908	76,966,424
All classes.....	737,547,576	105,863,939

The tariff law of 1890 became operative October 6 in that year, and continued in force until August 28, 1894. It did not greatly change the duties previously existing on wool and woollens. The total imports of wool under this law were:

	Total, pounds.	Yearly average, pounds.
Class 1.....	184,408,715	34,317,120
Class 2.....	18,587,124	4,745,648
Class 3.....	342,480,886	87,429,163
All classes.....	495,426,725	126,491,930

From September 1, 1894, to August 1, 1897, the period of the operation of the law of 1894, the imports of wool were:

	Total, pounds.	Yearly average, pounds.
Class 1.....	413,784,829	141,869,084
Class 2.....	70,127,994	24,043,884
Class 3.....	810,654,508	106,510,115
All classes.....	794,567,326	272,423,083

In the fiscal year 1896-97 occurred the largest importation of foreign wool ever known in the history of the United States for any one year, amounting to 350,852,026 pounds.

Between August 1, 1897, and June 30, 1900, under the present law the imports of wool were:

	Total, pounds.	Yearly average, pounds.
Class 1.....	81,947,914	28,096,423
Class 2.....	15,894,619	5,449,535
Class 3.....	246,539,749	84,116,485
All classes.....	343,182,282	117,662,493



The total importations from October, 1890, to June 30, 1900, were:

	Total, pounds.	Yearly average, pounds.
Class 1.....	630,141,458	64,029,898
Class 2.....	104,609,737	10,729,204
Class 3.....	898,425,138	92,146,168
All classes.....	1,633,176,333	167,505,265

The average annual imports for the first period of the decade were 126,491,930 pounds; in the second, 272,423,083 pounds; and in the third, 117,662,498 pounds. The average for the decade was 167,505,265 pounds, a quantity more than 60,000,000 pounds in excess of the average importations under the law of 1883. By far the greater part of the increased importations was of class 1 wools.

#### IMPORTS OF WOOL GOODS.

The imports of wool goods show a similar increase. The annual average for the first period was \$31,102,288 in value; for the second, \$47,342,664. The very large imports of this period were followed by much smaller imports than usual, and in the third period the annual average amounted to only \$14,186,264.

The imports of wool goods for these periods by

years were as follows, values only being given, as quantities of certain kinds of goods are not obtainable:

Nine months ending June 30, 1891.....	\$24,204,780
Year ending June 30, 1892.....	35,565,879
Year ending June 30, 1893.....	38,048,515
Year ending June 30, 1894.....	19,439,372
July and August 1894.....	4,558,747
Total.....	121,817,293
Annual average.....	31,102,288
Ten months ending June 30, 1895.....	31,981,143
Year ending June 30, 1896.....	53,494,400
Year ending June 30, 1897.....	49,162,992
July, 1897.....	3,444,234
Total.....	138,082,769
Annual average.....	47,342,664
Eleven months ending June 30, 1898.....	11,379,537
Year ending June 30, 1899.....	13,832,621
Year ending June 30, 1900.....	16,164,446
Total.....	41,376,604
Annual average.....	14,186,264

#### RANK OF STATES IN WOOL MANUFACTURE ACCORDING TO VALUE OF PRODUCT.

Table 4 shows the rank of the 10 states having the greatest value of product in the wool manufacture, and their relative rank in each of the various branches, 1890 and 1900.

TABLE 4.—WOOL MANUFACTURE—RANK OF STATES, BY VALUE OF PRODUCTS: 1890 AND 1900.<sup>1</sup>

TOTAL, ALL BRANCHES.					WOOLEN GOODS.					WORSTED GOODS.				
States.	Rank.	1900	Rank.	1890	States.	Rank.	1900	Rank.	1890	States.	Rank.	1900	Rank.	1890
Massachusetts..	1	\$81,041,537	2	\$67,599,321	Massachusetts..	1	\$30,888,104	1	\$35,771,161	Massachusetts..	1	\$40,557,363	2	\$21,933,775
Pennsylvania..	2	71,878,503	1	72,393,182	Pennsylvania..	2	25,389,344	2	29,878,010	Rhode Island..	2	33,341,329	1	22,819,684
Rhode Island..	3	38,671,879	3	32,204,629	Maine.....	3	11,633,232	6	7,521,317	Pennsylvania..	3	22,109,892	3	17,861,776
New York.....	4	80,813,389	4	28,563,569	Connecticut..	4	8,097,218	4	9,082,493	New Jersey....	4	6,823,721	7	2,058,662
New Jersey....	5	13,793,144	7	8,528,070	N. Hampshire..	5	7,624,062	5	8,004,264	New York.....	5	5,958,259	4	5,763,102
Maine.....	6	13,412,784	8	7,521,317	New York.....	6	6,715,005	8	5,188,020	Connecticut..	6	4,589,814	5	4,651,402
Connecticut..	7	12,687,082	5	13,733,895	Rhode Island..	7	5,330,550	3	9,884,945	Maine.....	7	1,779,552	.....	( <sup>2</sup> )
N. Hampshire..	8	7,624,062	6	10,769,240	New Jersey....	8	4,755,393	7	5,652,166	N. Hampshire..	.....	( <sup>3</sup> )	6	2,764,970
Vermont.....	9	2,572,646	10	2,723,683	Vermont.....	9	2,572,646	10	2,723,683					
Tennessee.....	10	1,517,194	16	1,216,419	Tennessee.....	10	1,517,194	16	1,216,419					

  

CARPETS AND RUGS, OTHER THAN RAG.					FELT GOODS.					WOOL HATS.				
States.	Rank.	1900	Rank.	1890	States.	Rank.	1900	Rank.	1890	States.	Rank.	1900	Rank.	1890
Pennsylvania..	1	\$23,113,058	1	\$22,886,416	New York.....	1	\$1,734,136	1	\$1,517,199	New York.....	1	\$1,376,721	2	\$1,489,182
New York.....	2	15,029,218	2	14,606,116	Massachusetts	2	1,526,830	2	918,890	Pennsylvania..	2	1,106,076	3	1,444,180
Massachusetts	3	6,966,287	3	7,275,009	New Jersey....	3	691,203	.....	( <sup>2</sup> )	Massachusetts	3	1,103,008	1	1,700,486
New Jersey....	4	1,522,827	4	817,242	Pennsylvania..	4	160,638	4	322,800					
					Ohio.....	.....	( <sup>3</sup> )	3	406,700					

<sup>1</sup> This table does not include statistics of establishments under 3 in the various subdivisions, and the totals, therefore, are less than in the detailed statements at the end of this report.

<sup>2</sup> Included in "all other states" in 1890.

<sup>3</sup> Included in "all other states" in 1900.

In total value of products Massachusetts led in 1900, with a product valued at \$81,041,537; it was second in 1890. Pennsylvania, first in 1890, was second in 1900, with \$71,878,503. No other state approached these two. Rhode Island was third in rank—the same position it held in 1890—with a product somewhat less than half that of Massachusetts, followed by New York, with a product

not quite half that of Pennsylvania. New Jersey, Maine, and Connecticut were very close together, with but little over \$1,000,000 difference in the value of their products. New Hampshire was eighth, with products of \$7,624,062. Vermont had \$2,572,646, and Tennessee \$1,517,194. These 10 states were the producers of nearly 70 per cent of the total wool manufac-

tures of the United States. Their relative standing in the various branches differs from their standing in the combined industry. In the manufacture of woolen goods Massachusetts was first as in 1890 and Pennsylvania second. Maine, Connecticut, and New Hampshire, which ranked sixth, seventh, and eighth in total value, were third, fourth, and fifth, respectively, in woolen goods. New York was sixth and Rhode Island seventh.

In worsted manufactures Massachusetts remained in the lead, with products valued at \$40,557,363, followed by Rhode Island, Pennsylvania, New Jersey, New York, Connecticut, and Maine, in the order named. In the carpet manufacture Pennsylvania ranked first, as in 1890, with products valued at \$23,113,058, followed by New York with \$15,029,218. Massachusetts was third with \$6,966,237, and New Jersey fourth. The manufacture of felts was carried on in 36 establishments, all but 11 of which were in the states of New York, Massachusetts, New Jersey, and Pennsylvania. New York held first rank, closely followed by Massachusetts. The wool hat manufacture was carried on principally in New York, Pennsylvania, and Massachusetts; New York leading in production, with a value of \$1,376,721, and Massachusetts coming last, with products valued at \$1,103,003. The three states were almost on a level in this branch.

The following is the rank of the three leading cities in the wool manufacture, 1890 and 1900:

RANK OF THREE LEADING CITIES ACCORDING TO  
VALUE OF PRODUCTS: 1880 TO 1900.

	1900		1890		1880
	Rank.	Value of products.	Rank.	Value of products.	Rank.
Philadelphia, Pa.....	1	\$56,672,007	1	\$73,718,856	1
Lawrence, Mass.....	2	25,684,744	3	10,431,192	2
Providence, R. I.....	3	18,375,776	2	18,237,531	3

TABLE 5.—MACHINERY OF WOOL MANUFACTURE: 1880  
TO 1900.

CLASSES.	1900	1890	1880	PER CENT OF INCREASE.	
				1890 to 1900	1880 to 1900
Cards.....	6,605	7,015	6,989	15.8	0.4
Combing machines.....	1,451	839	515	72.9	62.9
Spindles.....	3,511,039	2,798,147	2,111,973	25.7	32.3
Looms.....	74,190	69,658	57,297	6.5	21.6

<sup>1</sup> Decrease.

While the number of cards reported in 1900 was 6,605, against 7,015 in 1890—a decrease of 410, or 5.8 per cent—the number of combing machines in 1900 was 1,415, against 839 in 1890, or an increase of 72.9 per cent. Assuming that a combing machine is equal in productive capacity to 2½ sets of cards, and stating the elementary productive machinery on the card basis, the year 1900 shows the equivalent of 10,143 sets of cards, against 9,113 in 1890, an increase of 11.3 per cent in productive capacity. The increase in machinery capacity has been accompanied with a corresponding increase in the quantity of raw material consumed and of goods produced. The cost of materials used has increased 8.3 per cent and the value of products 9.8 per cent.

In the decade 1880-1890, the number of cards increased 0.4 per cent, and of combs 62.9 per cent. A similar calculation to that above shows the increase in productive capacity in that decade to have been 16.4 per cent, a ratio of increase somewhat greater than that of the last decade. An examination of the increase by spindles and looms exhibits a much greater difference. The percentage of increase in spindles was 25.7 from 1890 to 1900, and 32.3 from 1880 to 1890. In looms the increase was 6.5 and 21.6 per cent, respectively.

None of these percentages of increase, however, correctly measure the increase of manufacturing capacity. Improvements in machinery and appliances, and increased size of machines, added very considerably to the increased capacity of the latter period. It is safe to say, in a general way, that as a result of the various improvements, up-to-date machinery will, on the same class of work, produce 10 per cent more than was possible ten years ago.<sup>1</sup>

#### CARDING MILLS.

Table 6 presents the statistics of the custom carding mills.

<sup>1</sup> The improvements in woolen and worsted looms have been many and varied during the past ten years, facilitating not only an increased production by reason of the higher speed at which it is possible and profitable to operate the loom, but owing also to the various devices embodied in their construction, which aid materially in the ease with which they handle the warp and filling. While ten years ago broad woolen looms were operated in a few instances up to 100 picks per minute, to-day looms of a similar type can be run at from 115 to 120 picks, and in some special cases where the loom has been especially designed for producing a particular class of work, a speed of 140 to 150 picks per minute has been found to give very satisfactory results.

CROMPTON & KNOWLES LOOM WORKS.  
CHARLES F. HUTCHINS, President.

WORCESTER, Mass., December 23, 1901.

## MANUFACTURES.

TABLE 6.—WOOL CARDING—COMPARATIVE SUMMARY, BY STATES: 1890 AND 1900.

STATES.	Year.	Number of establishments.	Capital.	WAGE-EARNERS.		Miscellaneous expenses.	Cost of materials used.	Value of products.
				Average number.	Total wages.			
United States .....	1900 1890	231 193	\$458,286 385,411	140 1416	\$38,106 161,618	\$10,480 18,802	\$395,116 332,650	\$534,512 476,278
Alabama .....	1900 1890	9 5	8,175 6,825	5 7	843 1,465	225 123	14,064 8,489	20,163 6,180
Arkansas .....	1900 1890	11 3	15,025 11,635	6 4	930 1,237	258 202	16,148 7,085	21,930 9,250
Georgia .....	1900 1890	9 3	7,111 3,025	6 5	885 600	108 129	7,761 6,178	11,547 7,200
Indiana .....	<sup>2</sup> 1900 1890	<sup>2</sup> 7	<sup>2</sup> 36,765	<sup>2</sup> 32	<sup>2</sup> 3,451	<sup>2</sup> 912	<sup>2</sup> 17,280	<sup>2</sup> 23,798
Iowa .....	<sup>2</sup> 1900 1890	<sup>2</sup> 3	<sup>2</sup> 4,700	<sup>2</sup> 7	<sup>2</sup> 2,000	<sup>2</sup> 106	<sup>2</sup> 11,052	<sup>2</sup> 14,500
Kentucky .....	1900 1890	23 15	17,067 23,156	15 39	2,406 5,075	500 952	34,827 40,894	42,401 62,924
Maine .....	1900 1890	20 16	56,488 55,050	13 32	4,478 8,164	1,174 2,132	48,126 41,819	65,158 64,633
Michigan .....	<sup>3</sup> 1900 1890	<sup>3</sup> 10	<sup>3</sup> 18,295	<sup>3</sup> 26	<sup>3</sup> 4,186	<sup>3</sup> 888	<sup>3</sup> 19,931	<sup>3</sup> 20,109
Minnesota .....	1900 1890	5 6	13,650 11,475	2 28	600 3,950	483 1,166	13,666 14,422	18,350 20,951
Mississippi .....	<sup>2</sup> 1900 1890	<sup>2</sup> 3	<sup>2</sup> 3,200	<sup>2</sup> 6	<sup>2</sup> 1,150	<sup>2</sup> 65	<sup>2</sup> 4,575	<sup>2</sup> 6,250
Missouri .....	1900 1890	17 12	33,455 21,799	13 23	2,689 2,003	510 1,007	35,923 14,819	46,927 21,630
New Hampshire .....	<sup>2</sup> 1900 1890	<sup>2</sup> 4	<sup>2</sup> 5,925	<sup>2</sup> 9	<sup>2</sup> 1,240	<sup>2</sup> 315	<sup>2</sup> 8,448	<sup>2</sup> 12,200
New York .....	1900 1890	16 21	22,016 54,475	2 33	450 4,871	729 1,142	19,967 23,126	27,869 33,822
North Carolina .....	1900 1890	9 13	7,943 10,810	2 23	242 2,071	51 397	5,313 12,240	6,824 17,911
Ohio .....	1900 1890	3 7	11,700 14,020	3 25	640 3,125	282 705	4,293 7,397	5,981 11,703
Pennsylvania .....	1900 1890	26 14	96,550 25,233	11 21	3,208 2,843	1,369 877	39,843 16,782	56,260 21,600
Tennessee .....	1900 1890	33 19	65,919 17,953	34 33	6,861 4,866	2,219 407	60,747 27,882	85,800 38,136
Vermont .....	1900 1890	8 7	12,990 8,585	<sup>2</sup> 9	<sup>2</sup> 1,650	<sup>2</sup> 122 795	<sup>2</sup> 6,722 9,133	<sup>2</sup> 8,479 12,783
Virginia .....	1900 1890	4 5	10,740 16,010	2 9	617 1,477	165 268	9,935 5,816	12,359 9,800
West Virginia .....	1900 1890	12 7	8,337 10,180	3 15	725 1,450	236 88	15,258 9,943	17,946 13,770
Wisconsin .....	1900 1890	15 5	53,194 9,555	21 15	7,818 2,169	1,740 615	49,318 6,085	69,511 9,305
All other states <sup>4</sup> .....	1900 1890	11 8	17,925 16,730	2 21	255 3,075	314 351	12,605 19,364	16,920 27,623

<sup>1</sup> Includes for 1890 proprietors and firm members, salaried officials, clerks, etc., with their salaries, it being impossible to segregate these classes from wage-earners for that census.

<sup>2</sup> Included in "all other states."

<sup>3</sup> No establishments reported.

<sup>4</sup> Includes establishments distributed as follows: 1900—Connecticut, 1; Illinois, 1; Indiana, 1; Iowa, 1; Mississippi, 1; New Hampshire, 2; Oregon, 2; South Carolina, 1; Texas, 1. 1890—Illinois, 2; Maryland, 1; Massachusetts, 1; Oregon, 1; South Carolina, 1; Texas, 1; Utah, 1.

These carding mills are small concerns, generally operating the simplest kind of a carding machine, usually 24 inches in width. On this machine are made wool rolls for use in the household spinning industry from wool brought to the card by farmers in the neighborhood. This wool is frequently carded on shares; often the trade is by barter, payment being made in yarn or cloth, if the mill possesses also spinning and weaving apparatus. The carding mill is a branch of the wool manufacture which is passing away, notwithstanding the fact that the census of 1900 revealed a larger number of establishments than in 1890, with an increased capital and value of products. This result was due to a closer

cavass, and possibly to the classification of some small establishments as carding mills, which were not so reported in 1890. Great difficulty was experienced in obtaining satisfactory statements from these mills. They are usually conducted by the proprietor, aided by members of his family, no accounts being kept, the mill being in operation only at such times as meet the requirements of customers. The quantity of wool used by carding mills was very considerable in 1900, amounting to 1,540,025 pounds, costing \$375,469. The products consisted mostly of rolls and bats, valued at \$534,512.

For the benefit of the historian of a vanishing indus-

try, two trade circulars received with the reports of the mills—one from North Carolina, the other from West Virginia—are here reproduced.<sup>1</sup> The information they furnish relative to the quantity of wool required for the production of the goods made in carding mills, which are such as were made by the mills everywhere in the early days of the country, is interesting. So also is the list of prices charged for work, and the suggestions as to the methods of receiving stock, delivering goods, and credits.

<sup>1</sup> WOOL.

The undersigned wishes to inform the public that he still has control of the

MARKWOOD WOOLEN MILL,  
at

MARTIN, GRANT COUNTY, W. VA.

And will manufacture Wool on the halves, or will work for cash at the following prices:

Blankets, \$2.50 to \$3.50 per pair; Cassinet, Cloth and Full Linsey, 30c. per yard; Flannel and Linsey, 25c. per yard; Stocking Yarn, 20c. to 25c. per pound; Single Yarn, 12½c. to 20c. per pound; Fulling, 10c. to 12½c. per yard; Carding Rolls, 5½c. per pound, if greased; if not greased, 6c. per pound; Batting, 5c. per pound.

Persons living at a distance from the mill may leave their wool at either of the woolstands named below, and I will haul the wool to the mill and return the rolls or goods free of charge.

Thanking our many customers for past patronage, and soliciting a continuance of the same, I wish to state that I am prepared to do good work and will guarantee satisfaction.

Respectfully,

JAS. C. BILLMYRE.

Wool may be left at .....

Martin, W. Va., April 10, 1901.

*Alpine Woolen Mills, Mount Airy, N. C., Manufacture Cassimers, Jeans, Linseys, Flannels, Blankets, and Yarns. Custom work a specialty.*

Carding and spinning .....	10 cents per pound
Carding and spinning and doubling and twisting .....	15 cents per pound
Coloring wool—black, gray, or brown .....	5 cents per pound
Coloring yarns or wool—red, blue, or green .....	10 cents per pound
Making rough jeans .....	25 cents per yard
Making fulled and finished jeans .....	30 cents per yard
Making all-wool cassimer .....	40 cents per yard
Making all-wool flannel .....	20 cents per yard
Making linseys, cotton warp .....	18 cents per yard
Making flannel, cotton warp .....	15 cents per yard
Making bed blankets .....	\$2.50 per pair

## COMPARISON OF MILLS BY SETS OF CARDS.

A well-developed trend away from the card wool manufacture has long been recognized, but it remained for the census of 1900 to present, in a succinct form, the facts that should give some indication of the extent of this change. The report on wool manufactures for the Eleventh Census called attention to the tendency toward larger establishments, and presented a table showing the number of mills reporting cards, arranged according to the number of cards operated. Table 7 is a comparative summary of these statistics for 1890 and 1900.

Making bed blankets, red, etc .....	\$3.00 per pair
Making striped buggy blankets .....	\$1.25 per pair

Ten pounds clean, washed wool will make 9 pounds custom single yarn.

One pound clean, washed wool will make 1 yard all-wool cassimer.

One pound clean, washed wool will make 1½ yards any kind of jeans.

One pound clean, washed wool will make 2½ yards any kind of linsey.

One pound clean, washed wool will make 1½ yards all-wool flannel.

Eight pounds clean, washed wool will make 1 pair blankets.

Unwashed wool will lose one-third to one-half in washing, and sometimes, if burry, it will lose more than this. We would prefer people sending altogether washed wool, as it would save the freight on so much dirt, burrs, etc., though this is optional with them. We will pay freight on all wool shipped to us in lots over fifty pounds; less than fifty pounds the customer must prepay freight, or we will pay it and charge it up in bill of work. Don't ship wool by express, as we will not pay express rates, and you can not afford to pay them. Always be very careful to put your own name and post-office on every package of your wool, both inside and outside of the package, and you can not be too careful in writing your orders to us for what you want made of it. Order always by the number of the goods on the sample sheet. Don't order goods not on sample sheet, as we send samples of all we make every year, except blankets and yarns; then it is quite enough to say spin or make blankets, and name the kind or color. It would be best for customers ordering goods made to give a second choice, as we may sometimes be out of one kind of goods, and then we could send another much sooner.

We carry insurance for the benefit of our customers, but when we put their goods in the station our responsibility ends. We have not the pleasure of an acquaintance with all our customers, and we ship small bills of work collect on delivery to their nearest express office, unless otherwise ordered. We have greatly improved our mill this year, and we shall from time to time add new machinery to keep up with our work. Thanking our many friends and customers for their liberal patronage in the past, we hope to have many new ones this year.

Yours, very truly,

ALPINE WOOLEN MILLS,  
M. J. HAWKINS,

Proprietor.

MOUNT AIRY, N. C., March 1, 1900.

TABLE 7.—WOOL MANUFACTURES: NUMBER OF MILLS ACCORDING TO SETS OF CARDS: 1890 AND 1900.

GEOGRAPHICAL DIVISIONS.	Year.	Number reporting sets of cards.	1 set.	2 sets.	3 sets.	4 sets.	5 sets.	6 sets.	7 sets.	8 sets.	9 sets.	10 to 15 sets.	15 to 20 sets.	20 sets and over.	Carding mills.
United States.....	1900	976	139	119	76	81	46	51	34	40	22	69	31	37	231
	1890	1,468	347	221	151	107	66	80	36	58	22	106	44	57	193
New England states.....	1900	344	13	25	25	46	25	24	19	30	15	46	25	20	31
	1890	504	47	49	44	53	34	39	26	33	16	72	26	37	28
Middle states.....	1900	233	36	27	20	19	14	19	9	6	4	17	5	15	42
	1890	466	120	78	63	34	22	34	6	17	6	25	17	18	36
Southern states.....	1900	206	37	25	15	8	2	.....	2	.....	1	1	.....	2	113
	1890	197	57	38	10	8	2	.....	.....	1	.....	5	.....	1	76
Western states.....	1900	193	53	42	16	8	5	8	4	4	2	5	1	.....	45
	1890	301	123	56	24	12	8	7	4	7	.....	4	1	1	64

The comparison thus established brings to light some noteworthy facts. At the census of 1890, 1,468 mills reported sets of cards, of which 193 were carding mills. There were 568 mills with only 1 or 2 sets of cards; 238, with 3 and 4 sets; 146, with 5 and 6 sets; 222, with from 7 to 15 sets, 106 of these reporting 10 to 15 sets (the majority of this number, however, operated only 10 to 12 sets); and 101 mills with over 15 sets, of which 57 establishments had 20 sets of cards and over. At the census of 1900 only 976 establishments reported cards, of which 231 were carding mills; 258 were 1 and 2 set mills; 157, 3 and 4 set; 97, 5 and 6 set; 165, 7 to 15 set; and 68, 15 sets and over, 37 of these having 20 sets and over. From these statements it appears that the local 1 and 2 set mill is passing out of existence, following in the wake of the custom carding mill of earlier days. The 3 and 4 set mills were also largely reduced in number, the larger numerical loss being in the smaller mills. In the 5 and 6 set mills the reverse was the case, the greater loss both in number and percentage being in the 6 set establishments, which is perhaps accounted for by the fact that the 5 set mill presents better opportunities for economy in management.

The group of mills operating from 7 to 15 sets of cards is the one where the least change would naturally be expected, for it is well understood by woolen manu-

facturers that a 10 set mill, or one nearly approaching it, is in certain lines of manufacture the most economical of operation, as it requires no larger number of high-priced men, superintendents, second hands, etc., than a mill with only 5 or 6 sets. In the mills running from 7 to 9 sets there appears a reduction of only 20. In the remainder of this group, the mills having from 10 to 15 sets, and in the mills with 15 sets and over, the decrease has been very great—37 in the former and 33 in the latter. The principal causes of decrease are found in the failure of old and important establishments and the breaking up of their plants and the transfer of many large mills to the worsted branch. The substitution of knit garments for flannels has also been a factor of no small importance.

These changes have not been confined to any one section, but, as will be seen by the table, have occurred in much the same ratio throughout the country.

#### THE CARD WOOL MANUFACTURE.

The following statement shows the number of sets of cards in the woolen mills in the United States and in each state, arranged according to the width of main cylinder or swift. A similar statement showing the data for the hosiery and knit goods manufacture will be found under the proper head.

NUMBER AND WIDTH OF CARDS IN WOOL MANUFACTURES, BY STATES: 1900.

STATES.	Number of sets, width reported.	NUMBER OF CARDS OF EACH WIDTH REPORTED.												
		24 inches.	30 inches.	36 inches.	40 inches.	42 inches.	44 inches.	46 inches.	48 inches.	54 inches.	60 inches.	72 inches.	85 inches.	Miscellaneous.
United States.....	6,498	290	126	56	1,176	23	133	67	3,372	22	1,136	29	27	41
Alabama.....	8	7			1									
Arkansas.....	17	9	7											
California.....	30													1
Connecticut.....	450		1		94	6	23		30					
Delaware.....	13								291		27	4		4
Georgia.....	32	3	1						2		11			
Idaho.....	1					1			18					
Illinois.....	52	1	1	1	17				1		9			
Indiana.....	92	5	1		15				30					
Iowa.....	27	3			13		2		54		15			
Kansas.....	2								11					
Kentucky.....	58	25	3	1	2				2					
Maine.....	437	18	5	6	129		14		9		17			1
Maryland.....	47	6							225		35			6
Massachusetts.....	1,658	29	2	8	410	5	75	66	7		34			
Michigan.....	52								870		157	22	2	12
Minnesota.....	38		3	2	10				36					
Mississippi.....	26	5	5		19				8		1			
Missouri.....	37	13	4	2	3				18					1
New Hampshire.....	341	2			177	4	5	1	12		3			
New Jersey.....									141	8	3			
New York.....	208			1	2									
North Carolina.....	748	39	21	6	124	2	4		115	11	54		25	
North Dakota.....	32	14	2	2	4				511		34	3		4
Ohio.....	2								6		2			
Oregon.....	77	7	5		17									
Pennsylvania.....	35	1	1	5	4		2		31		15			
Rhode Island.....	1,149	62	12		26	2	1		29					
South Carolina.....	402				53				441		593			7
Tennessee.....	1	1							301	3	45			
Texas.....	99	4	28	5	6	3								
Utah.....	4								18					2
Vermont.....	17				1						33			
Virginia.....	124	8							16		4			
West Virginia.....	53	1	10	7	15		7		78		16			
Wisconsin.....	57	13	7	8	10				13		9			3
	72	11	7		12				12		4			1
									36		6			

Table 8 shows carding machinery, by states, 1870 to 1900.

The percentage of cards in the principal states remains but little changed in the ten years. The New England states, except Vermont and Maine, have each lost slightly, as compared with the total number of cards, but in no case does this loss exceed 1.3 per cent. New York, Pennsylvania, and New Jersey have each gained a trifle, but all the others show a relative loss. New England has maintained its superiority, having 3,427 sets, and of these Massachusetts had 1,594; the relative importance of this state in number of cards varies but very little from either 1880 or 1890. The same is true of the other leading states. New York, Pennsylvania, and New Jersey together had 2,217 sets. In the nine states mentioned were located most of

the mills of 4 sets and over, and together they had 5,644 sets, leaving only 961 for the rest of the United States. Indiana, which in 1890 had 135 sets, in 1900 had 92. In Ohio the number was reduced from 104 to 78 and in Illinois from 57 to 46. Exclusive of the states named the number was practically unchanged. The general tables show gains in some of the remaining states and losses in others, which counterbalance each other, and were governed by local causes. As the wool-growing interest becomes relatively of less importance in the farming sections of the East and Middle West, and transportation facilities increase, the neighborhood mills established originally because of their contiguity to the source of supply gradually fall into disuse, overshadowed by the establishments of greater capacity, capital, and credit in the more eastern sections.

TABLE 8.—CARDING MACHINERY, BY STATES: 1870 TO 1900.

STATES.	1900		1890		1880		1870	
	Number of cards (sets).	Per cent of total.	Number of cards (sets).	Per cent of total.	Number of cards (sets).	Per cent of total.	Number of cards (sets).	Per cent of total.
United States.....	6,605	100.0	7,015	100.0	6,989	100.0	8,705	100.0
Massachusetts.....	1,594	24.1	1,785	25.4	1,622	23.2	1,483	16.5
Pennsylvania.....	1,262	19.1	1,254	17.9	1,120	16.0	1,423	16.4
New York.....	748	11.3	702	10.0	890	11.9	940	10.8
Rhode Island.....	478	7.2	558	8.0	495	7.1	484	5.6
Connecticut.....	450	7.0	532	7.6	548	7.8	682	7.8
Maine.....	437	6.6	387	5.5	274	3.9	335	3.9
New Hampshire.....	335	5.1	380	5.4	317	4.5	360	4.1
New Jersey.....	207	3.1	202	2.9	161	2.3	98	1.1
Vermont.....	124	1.9	120	1.7	145	2.1	177	2.0
Ohio.....	78	1.2	104	1.5	182	2.6	334	3.8
Indiana.....	92	1.4	135	1.9	160	2.3	346	4.0
Illinois.....	46	0.7	57	0.8	106	1.5	250	2.9
In above 12 states.....	5,860	88.7	6,216	88.6	5,955	85.2	6,868	78.9
All other states.....	745	11.3	799	11.4	1,034	14.8	1,837	21.1

#### THE WORSTED MANUFACTURE.

Reference has been made to the rapid transition from the carded to the combed wool manufacture. Previous to 1865 the products of the worsted industry were confined mainly to furniture stuffs and light goods for women's wear. Between that date and 1870 several

establishments began the manufacture of cloths for men's wear,<sup>1</sup> and from that time dates the great worsted industry in the United States. Table 9 shows the number of combing machines, by states, 1870 to 1900, with the proportion each state had of the total.

<sup>1</sup> Eleventh Census of the United States, Manufactures, Vol. III, page 57.

TABLE 9.—NUMBER OF COMBING MACHINES, BY STATES: 1870 TO 1900.

STATES.	1900		1890		1880		1870	
	Number of combs.	Per cent of total.	Number of combs.	Per cent of total.	Number of combs.	Per cent of total.	Number of combs.	Per cent of total.
Total.....	1,451	100.0	839	100.0	515	100.0	261	100.0
Massachusetts.....	424	29.2	265	31.5	190	36.9	172	65.9
Pennsylvania.....	357	24.6	188	22.4	121	23.5	20	11.1
Rhode Island.....	287	19.8	193	23.0	70	13.6	7	2.7
New Jersey.....	128	8.8	29	3.5	9	1.7	6	2.3
New York.....	116	8.0	84	10.0	80	15.5	1	0.4
Connecticut.....	57	3.9	27	3.2	21	4.1	34	13.0
New Hampshire.....	34	2.4	29	3.5	21	4.1	12	4.6
Maine.....	19	1.3	6	0.6				
In above 8 states.....	1,422	98.0	820	97.7	512	99.4	261	100.0
All other states.....	29	2.0	19	2.3	3	0.6		

From a total of 261 combs reported in 1870 the industry has grown till, in 1900, 1,451 were employed, the increase being 97.3 per cent between 1870 and 1880,

62.9 per cent between 1880 and 1890, and 72.9 per cent between 1890 and 1900. Astonishing as the percentage statements are they do not furnish so clear an idea of

this phenomenal growth as do the actual figures. In 1870, 261 combs were employed; by 1880, 254 had been added, and by 1890, 324 more, making a total of 839. At the census of 1900 this number had increased by 612 combs during the decade, making the total 1,451, nearly  $5\frac{1}{2}$  times the whole number employed in 1870. The substitution of the worsted cassimere and coating for the woolen cassimere, doeskin, broadcloth, and similar fabrics has been the prime cause of the decrease in the card-wool manufacture. In 1900 Massachusetts led in the worsted manufacture as at previous censuses, its gain in number of machines during the decade being 159. Pennsylvania, which ranked third in 1890, increased from 188 to 357, and held the second place. Rhode Island, which was second in 1890 with 193 machines, ranked third in 1900, although its total increased to 287. New Jersey was next with 128, having added 99 since 1890. New York added 32 machines and ranked fifth, with 116 combs. No other state approaches these 5 in magnitude in this industry. Connecticut, New Hampshire, and Maine together had 110 combs, an increase of 49 since 1890, when they reported 61. In all the other states the additions were only 10.

The preceding statements make it apparent that the states possessing the greatest amount of wool carding machinery also possessed the bulk of the combing machines. The following tabular statement shows the capacity of the principal manufacturing states in 1900 and 1890, on the assumption of the equality of  $2\frac{1}{2}$  sets of cards to 1 comb in productive power:

PRODUCTIVE MACHINERY (CARDS AND COMBS) REDUCED TO THE CARD BASIS.

STATES.	DATE OF CENSUS.			
	1900		1890	
	Number of cards (sets).	Per cent of total.	Number of cards (sets).	Per cent of total.
United States.....	10,232	100.0	9,112	100.0
Massachusetts.....	2,654	25.9	2,448	26.9
Pennsylvania.....	2,154	21.1	1,724	18.9
Rhode Island.....	1,195	11.7	1,040	11.4
New York.....	1,038	10.1	912	10.0
Connecticut.....	602	5.9	599	6.6
New Jersey.....	527	5.2	274	3.0
Maine.....	484	4.7	393	4.4
New Hampshire.....	420	4.1	455	4.9
All other states.....	1,158	11.3	1,263	13.9

The table demonstrates the continued superiority of the 4 states, Massachusetts, Pennsylvania, Rhode Island, and New York, in the order named, in the wool manufacture. These 4 states together operated 67.2 per cent of the total productive machinery in 1890, and in 1900 operated 68.8 per cent.

#### SPINDLES.

According to the fiber employed or the yarn to be produced, the spindles employed in wool manufactures

are divided into 3 groups—woolen, worsted, and cotton. The total number of spindles reported was 3,511,099, an increase of 717,952, or 25.7 per cent over 1890. Of the whole number, 2,031,028 were woolen spindles, 1,325,255 worsted spindles, and 154,816 cotton spindles. The following statement shows the distribution of the spindles in the mills in 1900 and 1890:

COMPARATIVE STATEMENT OF SPINDLES, 1890 AND 1900.

	WOOLEN.		WORSTED.		COTTON.	
	1900	1890	1900	1890	1900	1890
Woolen mills.....	1,789,688	1,742,288	65,762	19,750	51,136	53,842
Worsted mills.....	160,026	207,180	1,125,644	479,675	95,856	68,223
Carpet mills.....	67,033	53,046	133,849	151,132	8,324	4,690
Felt mills.....	24,286	13,829	.....	.....	.....	.....
Total.....	2,031,028	2,016,343	1,325,255	650,557	154,816	126,247

The statement shows a reduction in the number of woolen spindles in worsted mills, occasioned by the removal of many of them and the substitution of worsted spindles. In the woolen, the carpet, and the felt mills, the gain in number was more than sufficient to offset the losses in the worsted mills. The net gain in woolen spindles was 14,685. The average number of woolen spindles to the card in 1890 was 287. In 1900 the average number to the card was 307. In worsted spindles the number more than doubled. This increase was not confined to the worsted mills, for the woolen mills also added materially to their capacity for the manufacture of worsted yarns. In the worsted mills the increase has been 645,969 spindles, or 134.7 per cent, and the total increase of worsted spindles is 674,698, or 103.7 per cent. Improvements in quality of goods, requiring higher counts of yarn, have made necessary a proportionately larger number of spindles.

In 1890 the average number of worsted spindles to a comb was 775; in 1900 it was 913. The difference may be, in some measure, accounted for by the increased efficiency of the comb, the result of improvements. In cotton spindles there has also been an increase over the number in 1890 of 28,569 spindles, or 22.6 per cent. The increase was mostly in the worsted mills, where a large quantity of cotton yarn was produced for use in cotton-warp dress goods.

#### DOUBLING SPINDLES.

For the first time in the census reports the separation of spindles into spinning and doubling spindles has been attempted. In 1890 an estimate of the number of doubling spindles, based upon the proportion existing in Great Britain, was made. It was supposed that the relative proportion would be about the same here as there. No later statistics of spindles in Great Britain are available than those of 1889, when the woolen mills had 3,107,209 spinning spindles and 299,793 doubling spindles, and the worsted mills, 2,402,922 spinning and 669,328 doubling spindles. The spindle capacity of the



United States ten years ago was less than one-half that of Great Britain.

In woolen spindles the United States has made some advance during the decade, but is at least as far behind Great Britain now as in 1890. It also appears that a much larger proportion of single yarns is used here, for while the spindles of British manufacturers were then in the ratio of 1 doubling to 10.36 spinning; the number in the United States now averages 1 to 22.46, which is less than one-half of the proportion in the British mills.

In worsted spindles the proportion in Great Britain in 1889 accords fairly well with the present census returns. The ratio then was 1 doubling to 3.59 spinning spindles, while the mills of the United States now report 351,550 doubling spindles, and 994,889 spinning spindles, a ratio of 1 to 2.83.

#### PRODUCTIVE CAPACITY.

It had been hoped that it would be possible to fix upon some standard of capacity in the wool manufacture that would compare favorably with the spindle, which is used as the measure in the cotton manufacture. The card has been used as the standard heretofore, but owing to variations in size and in productive power dependent on the quality of stock and the number or size of the yarn, it is very unsatisfactory. Cards range from 24 inches to 72 inches in width, with occasionally one of even greater width, and vary almost as greatly in diameter. The spindle, both woolen and worsted, mule or ring, is unsatisfactory also, for its product is dependent on the number of yarn and quality of stock and whether it is for warp or weft, warp requiring a much harder twist than weft. The letter below indicates the difficulty involved, as well as the apparent

impossibility of arriving at a suitable standard of measurement of productive capacity.<sup>1</sup>

#### IDLE CAPITAL AND MACHINERY.

Until the Eleventh Census no attempt was made to separate the idle from the active machinery in the wool manufacture. Previously, idle establishments were reported with those in active operation. In 1890, 267 factories, with 612 sets of cards and 35 combs, were not in operation during the census year. The number of idle sets of cards was equal to 6.9 per cent of the total number of cards reported both in operation and idle. The number of idle combs equaled 3.9 per cent of the total number. Table 10 shows the idle capital and machinery for 1900.

<sup>1</sup> There has been a considerable increase in the productive capacity of carding machines aside from that obtained by the increased surface of the more modern cards. Among the various factors which contribute to this, we mention the substitution of tempered steel wire clothing for iron, the use of double apron condensers in place of roll rubs, the improvements in automatic feeds, and also to a certain degree in the larger number of ends, thereby keeping the carding machines up to the full amount of stock which the wire will carry without overloading, and keeping the speed of the ring doffers within reasonable limits.

The improved methods of construction of modern cards also admit of uniform setting, and also very considerably reduce the stoppage of the machines for repairs, etc.

There has been a very considerable increase in the size of carding machines within the last twenty years. Where formerly many of them were built 40 inches wide, 42 inches diameter, now it is a very rare thing to build a card smaller than 48 inches wide by 48 inches diameter, and a large percentage of them are built with the main cylinders 60 inches in diameter and 48 inches wide, while quite a few are built 60 inches wide by 48 inches diameter, and some few of them 60 inches wide by 60 inches diameter.

We are unable to give you the information you desire in regard to basis upon which to estimate the production of mills from the number of spindles. We should like very much to obtain this information ourselves, but it seems very difficult, if not impossible, to get an accurate basis upon which to estimate.

DAVIS & FURBER MACHINE COMPANY.

NORTH ANDOVER, Mass., January 28, 1902.

TABLE 10.—IDLE CAPITAL AND MACHINERY, BY STATES: 1900.

STATES.	Number of establishments.	CAPITAL.					MACHINERY.			
		Total.	Land.	Buildings.	Machinery, tools, and implements.	Cash and sundries.	Sets of cards.	Comb-ing machines.	Spindles.	Looms.
Total .....	117	\$4,632,666	\$668,542	\$1,347,098	\$1,791,207	\$825,219	338	28	111,889	3,129
Connecticut .....	4	49,800	6,300	23,000	20,500	.....	12	.....	1,400	81
Illinois .....	4	44,850	6,350	12,800	25,700	.....	15	.....	6,620	241
Indiana .....	6	123,650	19,150	44,800	54,000	5,700	17	.....	6,198	83
Iowa .....	3	16,500	900	4,700	9,000	1,000	6	8	1,804	20
Kentucky .....	6	1,095,060	119,140	280,100	362,462	383,368	39	11	20,568	838
Maine .....	5	245,600	20,600	69,000	126,000	30,000	9	5	2,500	161
Massachusetts .....	18	1,474,800	229,532	494,683	552,121	198,464	90	.....	28,734	909
Michigan .....	3	8,400	1,450	2,100	2,000	2,850	4	.....	1,340	8
New Hampshire .....	4	303,350	67,000	88,000	100,784	52,610	38	.....	11,080	209
New Jersey .....	3	87,539	10,000	28,246	43,887	10,406	.....	.....	.....	72
New York .....	8	166,775	19,200	38,800	74,300	34,475	22	.....	4,410	47
Ohio .....	6	33,800	9,500	8,500	13,000	2,300	7	.....	1,010	29
Pennsylvania .....	20	255,100	19,480	67,580	91,400	76,640	6	.....	2,044	21
Rhode Island .....	6	524,600	116,500	180,000	228,100	.....	46	9	18,012	256
Tennessee .....	3	8,725	210	1,115	2,300	100	4	.....	580	18
Vermont .....	3	13,370	3,500	4,000	4,000	1,870	4	.....	680	9
All other states .....	15	186,247	19,730	60,274	81,703	24,540	20	.....	4,999	132

<sup>1</sup> Includes establishments distributed as follows: Arkansas, 2; Kansas, 1; Maryland, 1; Missouri, 1; Nebraska, 1; South Carolina, 1; Texas, 1; Utah, 1; Virginia, 1; Washington, 1; West Virginia, 2; Wisconsin, 2.



The returns for 1900 show 338 sets of cards and 28 combs idle, equal to 5.1 per cent of the total number of cards and 1.9 per cent of the total number of combs. The idle spindles equaled in 1890, 5.1 per cent, and in 1900, 3.2 per cent of the total number. The idle looms were 4.1 per cent of the total looms in 1890 and 4.2 per cent in 1900. While these percentages indicate that the machinery in the wool manufacture was more fully employed in 1900 than in 1890, it must not be overlooked that they relate only to mills that were idle during the whole of the census year. The reports of the active mills indicate a large amount of lost time.

The capital of the idle mills was reported as \$4,632,666, of which \$825,219 was in cash, unsettled accounts, etc., designated as live capital. The value of the plants was \$3,807,447. The average fixed capital per establishment was \$32,542.

The idle mills were located as follows: 40 in New England, 32 in the Middle states, 16 in the South, and 29 in the Western and Pacific states. Of the 40 in New England, 18 were in Massachusetts, with 90 sets of cards and a total capital of \$1,095,060; 6 were in Rhode Island and had 46 sets of cards and 9 combs, with a capital of \$524,600; 4 were in Connecticut; 4 were in New Hampshire; and 3 in Vermont. The 11 mills last named reported a total capital of \$366,520, with 53 sets of cards. In the Middle states, Pennsylvania had the greatest number of idle plants, 20, with only 6 sets of cards, and a capital of \$255,100. New York was next with 8 establishments, having 20 sets of cards, and a capital of \$166,775. New Jersey had 3, with capital amounting to \$87,539, but no preparatory machinery. In the Southern and Western groups, Kentucky had the largest amount of capital in idle mills. The states named possessed the greater part of the idle machinery, having 256 sets of cards and 20 combs, leaving only 82 sets of cards and 8 combs for all the others.

#### POWER.

The power, both steam and water, employed in the wool manufacture, increased 71,898 horsepower, or 35.5 per cent, during the decade ending in 1900. In the preceding decade the actual increase was 62,306 horsepower, about seven-eighths as much, although the percentage was 44.5. The carded wool manufacture shows an increase of 17,421 horsepower, or 14.3 per cent. The worsted manufacture in this, as in other particulars, shows the greatest increase, 48,266 horsepower, or 98.3 per cent. In 1890 this branch of the industry increased 32,680 horsepower, or 198.8 per cent over 1880. The horsepower in the carpet manufacture increased 18.8 per cent in 1900, and in the felt mills 57.8

per cent, while in the wool hat manufacture there was a decrease of 966 horsepower, or 29.3 per cent.

A more significant fact than the increase of the total horsepower employed is the increased efficiency of machinery which is indicated in the column of "Horsepower per wage-earner" in Table 11. In 1890, 131.2 horsepower, and in 1900, 172.4 horsepower per 100 operatives were required. The improvements in cards, combs, looms, and other machinery were such that less superintendence was needed and the operative could give his attention to more machines. The table following presents a statement of horsepower, wage-earners, and horsepower per wage-earner for the censuses of 1880, 1890, and 1900 for the wool industry in its various branches.

TABLE 11.—POWER AND LABOR: 1880 TO 1900.

INDUSTRIES.	Year.	Total horsepower.	Average number of wage-earners.	Horsepower per wage-earner.
Total .....	1900	274,262	159,108	1.72
	1890	202,364	154,271	1.31
	1880	140,058	131,059	1.07
Woolen goods .....	1900	139,645	68,893	2.03
	1890	122,224	76,915	1.59
	1880	106,507	85,202	1.25
Worsted goods .....	1900	97,888	57,008	1.71
	1890	49,117	42,978	1.14
	1880	16,437	18,689	0.88
Carpets and rugs, other than rag...	1900	26,932	28,411	0.95
	1890	22,677	28,736	0.79
	1880	10,491	20,299	0.52
Felt goods .....	1900	7,978	2,688	2.97
	1890	5,051	2,142	2.36
	1880	2,631	1,488	1.77
Wool hats .....	1900	2,329	2,108	1.11
	1890	3,295	3,500	0.94
	1880	3,992	5,431	0.74

#### DEPRECIATION OF PLANT.

No attempt was made at the census of 1900 to ascertain what allowances were made for depreciation of plant. In the thoroughly up-to-date establishment every improvement in machinery is adopted as soon as its value is demonstrated. Existing machinery, even though comparatively new, is at once discarded if increased production can be secured without a proportionate increase of cost by the substitution of the latest improved machines. The question with the manufacturer is not so much the cost, as whether the change will bring an increase of income sufficient to pay the interest on the cost, with an added margin for profit, and put the establishment in better condition to meet business competition. It is commonly agreed that an allowance of 10 per cent of the first cost of machinery is a fair annual allowance for wear and tear and supersession by im-

provements, and that at least this amount should be set aside for depreciation. A smaller allowance is sufficient for buildings, but, nevertheless, improved processes of manufacture frequently compel the tearing down of old buildings and the erection of new ones in their place, so that an allowance of 5 per cent is not too much for depreciation of buildings. It is true that in many establishments but little has been laid out for years on alteration or repairs, only a sufficient amount to keep the mill going being expended, and in many mills there are cards and looms that have been in operation for so long that they are almost relics of a by-gone age. Although such machines may answer the purpose of their owners fairly well, they fall far behind more modern machines in their productive capacity and economy of operation.

## CAPITAL.

The increase in capital employed during the decade 1890-1900, as shown by the reports, was \$64,293,006, or 26.1 per cent. The total capital is divided into fixed and live capital, the land, buildings, and machinery, etc., being regarded as "fixed" and the items of cash, unsettled ledger accounts, etc., as "live" capital. The following statement shows the statistics of capital for 1890 and 1900:

	CAPITAL.		Per cent of increase.
	1900	1890	
Aggregate.....	\$310,179,749	\$245,886,743	26.1
Total fixed capital .....	125,226,619	106,146,810	18.0
Land .....	17,936,483	12,682,857	41.4
Buildings.....	38,074,295	33,950,456	12.1
Machinery, tools, and implements.....	69,215,841	59,513,497	16.8
Cash on hand, unsettled ledger accounts, stock on hand, etc.....	184,953,130	139,739,933	32.4

The live capital reported shows an increase of 32.4 per cent and bears no fixed relation to the value or quantity of product. In 1890 it was a little more than half, and in 1900 it represented a sum equal to over 62 per cent of the total value of products. It has been generally understood in the wool manufacture that the active capital should be turned twice in the year, but in this case the tables show a falling off from this standard.

## WAGE-EARNERS AND WAGES.

The total number of wage-earners employed in the wool manufacture has increased 4,837 over 1890. Of this increase 4,821 were men and 819 were children. The number of women employed decreased 803. The relative proportion of each at the last three censuses is shown in the following statement:

## AVERAGE NUMBER OF WAGE-EARNERS, AND PROPORTION OF MEN, WOMEN, AND CHILDREN: 1880 TO 1900.

	Year.	Average number.	Per cent of total.
Total.....	1900 1890 1880	159,108 154,271 181,059	100.0 100.0 100.0
Men, 16 years and over .....	1900 1890 1880	83,371 78,550 66,347	52.4 50.9 50.6
Women, 16 years and over .....	1900 1890 1880	64,141 64,944 49,104	40.3 42.1 37.5
Children, under 16 years.....	1900 1890 1880	11,596 10,777 15,608	7.3 7.0 11.9

The proportions have changed very slightly in the decade, the percentage of men being 50.9 in 1890 and 52.4 in 1900; of women, 42.1 and 40.3; and of children, 7 and 7.3.

The total amount paid in wages in 1900 was \$57,933,817, divided as follows: To men, \$36,412,872; to women, \$19,549,423; to children, \$1,971,522. In 1890 the total amount was \$54,339,775, of which \$33,702,231 was paid to men, \$18,883,174 to women, and \$1,754,370 to children. No attempt is made to analyze these wages or to ascertain the average earnings, because of the different methods of reporting the average number of employees pursued at the two censuses. The full details of wages and earnings in the wool manufacture will be shown in the special report on wages to be published by the Census Office at a later date.

## CONDITIONS OF WAGE-EARNERS.

Within the memory of many men now living the conditions under which the work of the operatives is carried on have undergone a great change. In the early fifties it was the custom to work from sun to sun, and oftentimes for even longer hours. When daylight failed, the only light available was that furnished by little whale-oil lamps. The buildings were generally small, low-studded, ill ventilated, and poorly lighted. The operatives lived in factory boarding houses or in tenements owned by the mill proprietors, taking a part of their pay in board or rent. The evolution from these conditions has been slow but continuous. Mills of recent construction contain every modern appliance for facilitating production, such as cards, combs, mules, spinning frames, looms, and other machinery of the highest type, with their various stop motions and other automatic devices for the prevention of imperfections.

The rooms are large, lofty, well ventilated and lighted, and heated by steam. Electric lights make good the absence of daylight when required. The hours of labor have been reduced to 60 per week, and in several instances to a smaller number. Wages are generally paid in cash, usually either every week or once in two weeks, and factory inspection laws prevent, to a great extent, the employment of children under 14 years of age, and insure the best sanitary conditions.

## MATERIALS USED IN THE WOOL MANUFACTURE.

Table 12 is a summary of the kind, quantity, and cost of materials used in the various branches of the wool manufacture in 1900.

TABLE 12.—KIND, QUANTITY, AND COST OF MATERIALS USED: 1900.

CLASSES.	Total.	Woolen mills.	Worsted goods mills.	Carpet and rug mills, other than rag.	Felt goods mills.	Wool hat mills.
Total cost .....	\$181,150,127	\$71,011,956	\$77,075,222	\$27,228,719	\$3,801,028	\$2,042,202
Wool, foreign and domestic, in condition purchased:						
Pounds .....	394,369,523	150,200,616	179,977,936	51,871,334	9,606,263	2,713,374
Cost .....	\$89,893,850	\$34,497,689	\$44,306,141	\$8,104,107	\$2,196,440	\$788,978
Raw cotton:						
Pounds .....	43,414,502	34,967,959	5,276,751	1,943,942	1,225,850	.....
Cost .....	\$3,487,132	\$2,765,485	\$524,515	\$129,449	\$77,683	.....
Mohair:						
Pounds .....	3,048,146	1,117,179	1,905,967	25,000	.....	.....
Cost .....	\$1,439,288	\$469,831	\$972,207	\$7,250	.....	.....
Cotton yarn, not made in mill:						
Pounds .....	55,217,994	21,922,136	13,420,590	19,823,561	51,707	.....
Cost .....	\$9,568,804	\$3,782,240	\$3,032,039	\$2,744,928	\$9,657	.....
Linen yarn, not made in mill:						
Pounds .....	8,415,275	7,845	1,314	8,388,211	17,905	.....
Cost .....	\$1,178,414	\$0,998	\$1,052	\$1,164,826	\$5,538	.....
Silk yarn, not made in mill:						
Pounds .....	70,073	34,007	26,418	9,634	14	.....
Cost .....	\$334,001	\$145,514	\$144,971	\$43,455	\$61	.....
Yarn of jute, ramie, or other vegetable fiber, not made in mill:						
Pounds .....	39,965,180	1,118,767	.....	38,846,413	.....	.....
Cost .....	\$2,633,413	\$57,384	.....	\$2,476,029	.....	.....
Shoddy, purchased and made:						
Pounds .....	71,496,508	66,855,105	1,807,827	869,233	1,961,208	3,135
Cost .....	\$7,069,630	\$6,584,855	\$303,644	\$49,080	\$130,835	\$616
All other materials, cost .....	\$65,655,035	\$22,721,960	\$27,790,653	\$12,508,995	\$1,380,814	\$1,282,613
Total pounds, wool, cotton, and shoddy .....	564,498,527	273,945,816	200,483,104	74,508,070	12,845,028	2,716,509
Per cent of total .....	100.0	100.0	100.0	100.0	100.0	100.0
Total pounds of wool used .....	394,369,523	150,200,616	179,977,936	51,871,334	9,606,263	2,713,374
Per cent of total .....	69.8	54.8	89.8	69.6	74.8	99.9
Total pounds of cotton and cotton yarn used .....	98,632,496	56,890,095	18,697,341	21,707,503	1,277,557	.....
Per cent of total .....	17.5	20.8	9.3	29.2	9.9	.....
Total pounds of shoddy used .....	71,496,508	66,855,105	1,807,827	869,233	1,961,208	3,135
Per cent of total .....	12.7	21.4	0.9	1.2	15.3	0.1

The consumption of wool in 1900 in the wool manufacture was 394,369,523 pounds, of which 257,934,562 pounds was of domestic production, and 136,434,961 pounds of foreign growth.

The quantity of new wool used in the wool manufacture has increased 12.3 per cent since 1890; the quantity of shoddy used has increased 25.8 per cent. The increase in the consumption of wool wastes and noils is 18.2 per cent, and of all other hair and animal fiber, including camel's hair and mohair, 33.7 per cent. The quantity of raw cotton used has increased 25.5 per cent. The total quantity of raw fiber consumed has increased 15.5 per cent, while the value of products has increased only 9.8 per cent.

## NET WOOL SUPPLY, FOREIGN AND DOMESTIC.

The following statement shows the net supply of wool for the twenty years beginning with 1881, with the percentage of supply to imports. These figures are compiled from the reports of the Bureau of Statistics of the Treasury Department.

## WOOL PRODUCED AND IMPORTED, DOMESTIC EXPORTS AND ANNUAL SUPPLY OF THE UNITED STATES, 1881 TO 1900 INCLUSIVE.

Years.	Domestic production (Department of Agriculture), pounds.	Imports entered for consumption year ending June 30, pounds.	Total production and imports, pounds.	Domestic exports year ending June 30, pounds.	Net supply, pounds.	Per cent of imports to supply.
1881.....	240,000,000	67,416,967	307,416,967	71,455	307,345,512	21.9
1882.....	272,000,000	63,016,769	335,016,769	116,179	334,900,590	18.8
1883.....	290,000,000	53,049,967	343,049,967	64,474	342,885,493	16.6
1884.....	300,000,000	37,703,931	337,703,931	10,393	337,693,538	22.6
1885.....	305,000,000	68,146,652	373,146,652	88,006	372,068,646	18.1
1886.....	302,000,000	107,910,549	409,910,549	147,023	409,763,526	26.3
1887.....	285,000,000	114,404,173	399,404,173	257,940	399,146,233	28.7
1888.....	269,000,000	97,231,267	366,231,267	22,164	366,009,103	26.6
1889.....	265,000,000	126,181,273	391,181,273	141,576	391,039,697	32.3
1890.....	276,000,000	109,902,105	385,902,105	231,042	385,671,063	28.5
1891.....	285,000,000	119,380,280	404,380,280	291,022	404,089,258	29.5
1892.....	294,000,000	134,622,366	428,622,366	202,456	428,419,910	31.4
1893.....	303,153,000	175,636,042	478,789,042	91,858	478,697,184	36.7
1894.....	298,057,834	45,726,050	343,783,884	620,247	343,163,637	13.3
1895.....	308,748,000	265,726,348	574,474,348	4,279,109	570,195,239	46.6
1896.....	272,474,703	228,047,543	500,522,246	6,945,981	493,576,265	46.3
1897.....	259,158,251	350,250,028	609,408,279	5,271,536	604,136,743	53.0
1898.....	266,720,684	70,334,897	337,055,581	1,211,189	335,844,392	22.9
1899.....	272,191,390	77,388,192	349,579,582	1,688,419	347,891,163	22.2
1900.....	309,991,812	128,250,945	438,242,757	2,200,309	436,042,448	29.4

<sup>1</sup> Estimate of the National Association of Wool Manufacturers.

<sup>2</sup> Census of 1900.

The total quantity of imported wool entered for consumption during the ten years 1881-1890 was 894,963,653 pounds. The quantity of wool grown in the United States in the same period was 2,807,000,000 pounds, and deducting the exports of domestic wool, the total net supply was 3,700,813,401 pounds. The annual average net supply was 370,081,340 pounds. The quantity of foreign wool reported at the Eleventh Census as consumed was 114,116,612 pounds, and the total of domestic wool so reported was 258,680,801 pounds, making the total quantity consumed 372,797,413 pounds, which is 2,716,012 pounds in excess of the annual net supply. The total amount used in the year 1890 coincided closely with the average of the ten years, as above given, but the quantity of foreign wool used was greater than the average importation, and the quantity of domestic less than the average production.

In the ten years 1891-1900 the foreign wool entered for consumption amounted to 1,595,972,697 pounds, and the domestic growth for the same time was 2,870,490,169. The total net supply was 4,444,854,891 pounds, one-tenth of which was 444,485,489 pounds, the annual average net supply, which consisted of 159,597,270 pounds of foreign and 284,888,219 pounds of domestic wool.

The home production of wool in 1900 was 71.1 per cent of the net supply, but as 98,970,344 pounds of the foreign imports were of wools used mostly in the carpet manufacture, the domestic wool growers furnished a much larger proportion of the wool needed for clothing the people of the United States than the percentage indicates.

The growth of any year or the imports entered for consumption are not necessarily consumed in the same year. But in a series of years the supply and consumption will nearly balance each other. There are no means of ascertaining the quantity of wool consumed in the years between the census years. It may or may not equal the consumption of the year of the census

but the close correspondence in both periods between the average net supply and the consumption reported corroborate both the census figures and the clip estimates.

#### DOMESTIC WOOL.

The records show great variations in the annual production of domestic wool. In 1890 the quantity reported by the Department of Agriculture was 276,000,000 pounds. This quantity increased yearly, until in 1895 the product was 309,748,000 pounds. The next three years showed a steady decline, until in 1897 the bottom was reached with a production reduced to 259,153,251 pounds. This is the smallest amount in any one year since 1881, when the United States Department of Agriculture reported the product at 240,000,000 pounds. The census reports for 1900 show a product for the census year of 276,991,812 pounds of fleece wool, to which must be added 33,000,000 pounds, estimated as the quantity of pulled wool produced, making a total of 309,991,812 pounds of wool. No previous census has taken account of the Angora goats in the United States. It appears from the returns of the census for 1900, as tabulated under the direction of Mr. L. G. Powers, Chief Statistician for Agriculture, that in 1900 there were 454,932 fleece-bearing goats, which furnished 961,328 pounds of hair, valued at \$267,864, an average of nearly 28 cents per pound. Adding this hair to the wool product, the domestic product of wool and hair for the census year, as ascertained at the census of 1900, was 310,953,140 pounds.

#### IMPORTS OF FOREIGN WOOL, 1822 TO 1900.

The following table shows the quantity and value of imported wool entered for consumption from 1822 to 1900, inclusive, by periods of five and ten years. It shows also the increase in quantity for each of these periods and the percentage of the increase:

## MANUFACTURES.

IMPORTS OF FOREIGN WOOL: 1822 TO 1900.<sup>1</sup>

YEARS.	Quantity (fiscal year) (pounds).	Value.	Quantity (5- year periods) (pounds).	Value.	Quantity (10- year periods) (pounds).	Value.	INCREASE IN QUANTITY AND IN PER CENT (POUNDS).	
							5 years.	10 years.
1822.....	1,715,690	\$387,812	6,736,205	\$1,638,704				
1823.....	1,673,348	340,956						
1824.....	1,291,400	353,367						
1825.....	2,055,767	552,069						
1826.....	2,622,909	446,768	10,200,102	1,612,260	16,936,307	\$3,245,964	3,463,897 51.42 per cent.	
1827.....	3,180,767	379,841						
1828.....	2,437,018	488,881						
1829.....	1,295,767	204,618						
1830.....	663,641	92,172						
1831.....	5,619,353	1,287,540	15,904,169	2,955,115			5,704,067 55.92 per cent.	
1832.....	2,814,879	501,502						
1833.....	273,631	93,957						
1834 <sup>2</sup> .....								
1835.....	7,196,306	1,072,116						
1836.....	12,296,249	1,203,987	46,961,106	4,001,900	62,865,275	6,957,015	31,056,937 195.28 per cent.	45,928,968 271.19 per cent.
1837.....	10,259,687	806,544						
1838.....	6,785,704	509,283						
1839.....	7,806,254	662,306						
1840.....	9,813,212	819,830						
1841.....	14,862,984	1,047,507	67,113,232	4,548,590			20,152,126 42.91 per cent.	
1842 <sup>3</sup> .....	10,849,778	716,763						
1843.....	3,497,447	228,106						
1844.....	14,077,956	872,143						
1845.....	23,825,072	1,634,066						
1846.....	16,504,879	1,112,978	72,651,860	5,361,468	139,764,592	9,910,053	5,533,128 8.25 per cent.	76,899,317 122.32 per cent.
1847.....	8,249,207	524,874						
1848.....	11,879,453	862,675						
1849.....	17,822,497	1,170,561						
1850.....	18,695,294	1,690,380						
1851.....	32,578,193	3,836,613	110,198,202	13,165,013			37,546,842 51.68 per cent.	
1852.....	17,992,646	1,876,536						
1853.....	21,403,925	2,625,761						
1854.....	20,033,492	2,792,553						
1855.....	18,189,946	2,033,545						
1856.....	16,729,377	2,172,477	119,908,085	18,690,041	230,106,287	31,855,054	9,709,833 8.31 per cent.	90,341,695 64.64 per cent.
1857.....	13,460,227	2,612,704						
1858.....	25,662,478	3,523,536						
1859.....	33,030,112	5,084,582						
1860.....	26,125,891	5,236,792						
1861.....	31,638,533	5,015,002	284,517,282	48,466,353			164,609,197 137.28 per cent.	
1862.....	43,698,138	7,140,114						
1863.....	74,412,878	12,528,606						
1864.....	91,026,639	16,128,200						
1865.....	43,741,094	7,654,422						
1866.....	70,435,943	10,682,257	206,032,175	31,038,856	490,549,457	79,565,209	78,485,107 27.59 per cent.	260,443,170 113.18 per cent.
1867.....	37,683,675	5,779,511						
1868.....	24,632,551	3,955,671						
1869.....	34,635,939	5,251,094						
1870.....	38,634,087	5,430,323						
1871.....	50,174,056	7,704,674	337,182,602	60,582,888			131,150,427 63.66 per cent.	
1872.....	94,315,933	19,571,559						
1873.....	84,212,582	20,466,166						
1874.....	56,738,737	11,611,867						
1875.....	51,636,294	10,228,622						
1876.....	40,275,678	7,887,616	259,666,815	45,326,484	596,848,917	114,909,322	77,516,287 122.99 per cent.	106,299,460 21.67 per cent.
1877.....	40,114,394	7,012,972						
1878.....	39,801,161	6,995,367						
1879.....	40,102,642	5,516,813						
1880.....	39,372,440	17,913,666						
1881.....	67,416,967	12,060,827	339,334,286	53,953,737			79,667,971 30.63 per cent.	
1882.....	63,016,769	10,333,359						
1883.....	53,049,967	8,491,988						
1884.....	37,703,931	13,593,299						
1885.....	68,146,652	9,474,264						
1886.....	107,910,549	13,794,213	555,629,367	77,805,485	894,963,653	131,759,222	216,295,081 63.74 per cent.	298,114,736 49.95 per cent.
1887.....	114,404,173	16,351,370						
1888.....	97,231,207	14,062,100						
1889.....	126,181,273	17,432,759						
1890.....	109,902,105	16,165,043						
1891.....	119,390,280	17,070,183	741,101,092	90,936,877			185,471,725 33.38 per cent.	
1892.....	134,622,366	17,697,068						
1893.....	175,036,042	18,403,689						
1894.....	45,726,056	5,191,806						
1895.....	265,726,348	32,624,131						
1896.....	228,647,548	32,144,454	864,871,605	117,477,836	1,595,972,697	208,464,713	113,770,513 15.35 per cent.	701,009,044 78.34 per cent.
1897.....	350,250,028	53,219,397						
1898.....	70,334,897	8,714,526						
1899.....	77,333,192	8,303,239						
1900.....	128,280,945	15,036,220						

<sup>1</sup> The quantities and values given are for net imports, 1822 to 1866, inclusive, and imports entered for consumption from 1867 to 1900, inclusive.

<sup>2</sup> In 1884 the exports of foreign wool exceeded the imports.

<sup>3</sup> To and including the year 1842, the fiscal year ended September 30; after that date June 30.

<sup>4</sup> Decrease.

The greatest percentage of increase occurred in the five-year period ending in 1840, 195.28 per cent, the next was that ending in 1865. That ending in 1870 showed a decrease of 27.59 per cent. The greatest actual increase was in the period ending in 1890, the increase being 216,295,081 pounds, although the percentage of increase was only 63.74. The next largest periods were those ending in 1875 and 1895. In the decades the greatest percentage of increase was in that ending in 1840, 271.19 per cent, and was followed by those ending in 1850, 1870, 1900, 1860, 1890, 1880, in the order named. The actual increase varies very greatly from the above order. The greatest increase in the decades was in the last, 1891-1900, 700,009,044 pounds, 78.34 per cent. Then come the decades ending in 1890, 1870, 1880, 1860, 1850, in the order named, and last 1840, with an increase of 271.19 per cent, but an actual increase of only 45,928,968 pounds.

#### THE FOREIGN SOURCES OF WOOL SUPPLIES.

The three following tables show the countries of origin of the wools imported into the United States during the years ending June 30, 1890, and June 30, 1900. They are divided according to the tariff division of imported wool into classes, and indicate in a striking manner the changes which have occurred during the decade in the sources from which wool imports are drawn. As the bulk of imported wools are of Class III, they are placed first. These wools were used principally in carpet manufacture.

#### IMPORTS OF CLASS III WOOLS, BY COUNTRIES OF PRODUCTION: 1890-1900.

	1890	1900
	Pounds.	Pounds.
Total .....	80,152,484	105,742,030
Australasia .....	21,237	311,337
Europe .....	30,858,372	30,206,506
Austria-Hungary .....	11,977	920,562
Belgium .....		87,257
Denmark .....		137,144
England .....	5,193,817	2,234,475
Ireland .....		35,860
Scotland .....	5,144,822	10,025,197
France .....	2,193,996	330,254
Germany .....	718,572	1,986,837
Greece .....		21,722
Greenland, Iceland, etc .....	64,104	502,736
Italy .....	444	57,802
Portugal .....	339,956	183,891
Russia—Baltic and White seas .....	3,397,982	6,013,756
Russia—Black Sea .....	10,594,887	5,725,764
Russia—all other .....	1,362,293	1,038,193
Serbia .....	28,381	333,473
Spain .....	32,837	54,935
Sweden .....		146
Switzerland .....	35,685	61,315
Turkey in Europe .....	1,733,619	455,092
All other countries .....		
South America .....	15,427,402	10,615,231
Argentina .....	13,531,096	8,951,184
Brazil .....	175,097	254,705
Chile .....	1,634,953	864,047
Ecuador .....	1,087	
Uruguay .....	84,569	522,087
Venezuela .....		23,208
Asia .....	33,378,502	64,257,659
Aden .....		7,002
China .....	8,704,933	30,984,902
India .....	7,931,474	9,896,240
Japan .....		27,100
Russia—Asiatic .....	204,339	6,041,346
Turkey in Asia .....	12,563,375	7,853,411
All other countries .....	3,969,331	9,947,649

#### IMPORTS OF CLASS III WOOLS, BY COUNTRIES OF PRODUCTION: 1890-1900—Continued.

	1890	1900
	Pounds.	Pounds.
Africa .....	154,826	336,048
British Africa .....		62,925
Turkey in Africa .....	154,826	95,027
All other countries .....		173,096
West Indies .....	48,134	14,377
British .....	32,793	60
Danish .....	357	
Dutch .....	14,984	14,317
All other countries not specified .....	264,011	372

The total imports of these wools were 80,152,484 pounds in 1890, and 105,742,030 pounds in 1900, an increase of 25,589,546 pounds. Argentina, which for a long time has been one of the chief sources of supply, sent 4,579,912 pounds less in 1900 than in 1890; England and Scotland sent about the same quantity in both years, as also did Russia in Europe; but Asiatic Russia increased its shipments 5,837,007 pounds. Turkey in Europe sent 1,278,527 pounds less than before, Turkey in Asia 4,714,964 pounds less, and India 1,464,775 pounds more. The quota of France was reduced by 1,868,742 pounds, and Germany increased its quota by 1,268,265 pounds. The great difference, however, appears in the importations from China. In 1890 there were received from that empire 8,704,933 pounds; in 1900, 30,984,902 pounds; the increase being 22,279,919 pounds, a quantity nearly equal to the total increase as shown by the table. The China wools have been steadily growing in favor with carpet manufacturers.

#### CLASS I WOOLS.

The wools of Class I come most directly into competition with the wools of domestic production. For many years American importations of such wools have been mostly of Australian growth. In recent years, however, large quantities have come from the Argentine Republic. The Argentine sheep farmers, to meet the demand for mutton sheep for food purposes, crossed their Merinos with sheep of English blood and incidentally produced a cross-bred wool comparing favorably with the admirable cross-bred territorial wools of the United States. In 1890, 168,355 pounds of these wools were brought into the United States, but in 1900 the quantity had increased to 11,113,095 pounds.

During the decade the sheep of Australasia have suffered severely from frequent and long-continued droughts, resulting in a reduction of the flocks from 124,983,100 in 1892 to 93,196,483 in 1901, with a corresponding reduction in the product. The imports of these wools into the United States increased from 11,928,921 pounds in 1890 to 22,684,590 pounds in 1900. The importations of Class I wools for 1890 were 15,492,107 pounds, and in 1900, 37,036,621 pounds.

## IMPORTS OF CLASS I WOOLS, BY COUNTRIES OF PRODUCTION: 1890-1900.

	1890	1900
Total .....	Pounds. 15,492,107	Pounds. 37,036,621
Australasia .....	11,928,921	22,684,590
Europe .....	1,271,510	420,790
England .....	884,807	224,010
Ireland .....	509	68,251
Scotland .....	262,833	63,027
France .....	7,199	18,627
Germany .....	157	100
Iceland .....	34	788
Netherlands .....	334	10,514
Russia—Baltic and White seas .....	91,460	816
Spain .....	24,868	500
Turkey in Europe .....		
All other countries .....		
South America .....	1,166,890	13,182,040
Argentina .....	168,355	11,113,095
Brazil .....	67,981	351,190
Chile .....	783,575	1,367,410
Peru .....	2,740	5,126
Uruguay .....	144,239	345,219
Asia .....	18,056	61,961
China .....	10,456	
Turkey in Asia .....	3,800	61,933
All other countries .....	3,800	28
Africa .....	1,105,730	660,680
British Africa .....	1,102,793	626,141
All other countries .....	2,937	84,539
All other countries .....	1,000	26,560

## CLASS II WOOLS.

In the imports of these wools there has been but little change, the total quantity being 9,885,173, which was only 2,226,367 pounds more than the importations in 1890. The United Kingdom was the great source of supply, furnishing 7,805,222 pounds of the total, which

is 907,818 pounds in excess of the quantity imported thence in 1890.

## IMPORTS OF CLASS II WOOLS, BY COUNTRIES OF PRODUCTION: 1890-1900.

	1890	1900
Total .....	Pounds. 7,658,806	Pounds. 9,885,173
Australasia .....		125,467
Europe .....	7,312,278	8,885,173
Austria-Hungary .....		55
England .....	6,897,404	5,693,724
Ireland .....		1,660,971
Scotland .....		450,627
France .....	11,526	296
Germany .....	110	78,240
Netherlands .....		180,788
Turkey in Europe .....	403,238	
South America .....	19	748,867
Colombia .....	19	
Peru .....		543,866
Uruguay .....		205,001
Asia .....	157,482	930,705
China .....	110,047	13,387
India .....		743
Russia in Asia .....		39,674
Turkey in Asia .....	46,785	841,993
All other countries .....		34,908
Africa .....	3,412	15,538
British Africa .....	3,412	11,091
All other countries .....		3,847
North America .....	185,665	
Quebec, Ontario, Manitoba, and Northwest Territory .....	159,861	
British Columbia .....	25,804	

## WOOLS ENTERED FOR CONSUMPTION.

The following table shows the imports of wool entered for consumption, giving quantities and values, divided into classes according to the tariff classification:

TABLE 13.—WOOLS ENTERED FOR CONSUMPTION IN THE UNITED STATES, 1867 TO 1900, BY CLASS, QUANTITY, AND VALUE.

YEARS.	Total pounds.	NO. 1.—CLOTHING.		NO. 2.—COMBING.		NO. 3.—CARPET WOOLS.	
		Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
1867 .....	37,683,675	1,270,350	\$415,009	150,302	\$31,827	36,268,017	\$5,382,074
1868 .....	24,582,551	4,051,679	918,588	1,804,272	332,815	18,096,600	2,704,768
1869 .....	34,695,940	2,512,202	505,715	4,538,867	1,092,297	27,650,371	3,653,682
1870 .....	38,684,067	6,530,493	1,249,152	2,752,569	765,147	29,851,005	3,416,024
1871 .....	50,174,056	5,957,461	1,201,201	17,665,600	3,167,635	26,560,995	3,335,638
1872 .....	94,315,933	16,871,332	4,183,960	41,155,460	8,952,131	36,289,141	6,436,468
1873 .....	6,029,488	1,744,200	49,540,231	12,723,501	28,642,863	6,998,465	
1874 .....	56,793,737	815,307	27,087,437	6,193,150	27,808,090	4,603,410	
1875 .....	51,686,294	13,117,679	3,602,585	7,769,157	30,799,458	4,472,826	
1876 .....	40,275,678	8,043,366	2,187,713	3,167,307	1,153,504	28,465,005	4,546,398
1877 .....	40,114,394	9,294,029	2,202,639	2,509,954	830,715	28,310,411	3,979,617
1878 .....	39,801,161	9,016,012	2,431,043	3,028,809	969,683	26,856,280	3,594,640
1879 .....	40,102,642	5,229,937	1,114,301	1,709,601	413,761	38,103,054	3,988,752
1880 .....	99,372,440	26,785,172	6,412,273	13,266,856	3,801,730	59,320,412	7,699,663
1881 .....	67,416,967	20,609,707	4,751,454	4,421,491	1,271,332	42,385,769	6,038,041
1882 .....	63,016,760	13,489,923	3,042,407	2,318,671	648,252	47,208,175	6,642,609
1883 .....	53,049,967	11,546,630	2,567,443	1,373,114	545,937	40,130,323	5,550,558
1884 .....	87,703,931	20,703,343	4,700,603	4,474,896	1,056,768	62,525,692	7,833,936
1885 .....	68,146,652	13,472,432	2,994,538	3,891,914	921,252	50,732,306	5,558,479
1886 .....	107,910,549	23,321,759	4,344,189	4,372,739	1,106,116	79,716,051	8,343,908
1887 .....	114,404,173	28,195,734	4,339,498	9,703,962	2,270,058	81,504,477	9,741,814
1888 .....	97,231,267	16,952,513	3,048,780	5,568,068	1,322,862	74,710,686	9,090,459
1889 .....	126,181,273	22,973,088	4,764,015	6,651,719	1,556,809	96,556,466	11,112,435
1890 .....	109,902,105	21,887,867	4,856,640	7,662,978	1,895,535	86,851,260	9,412,866
1891 .....	119,390,280	26,520,670	6,025,452	6,973,921	1,640,262	85,895,639	9,404,468
1892 .....	134,622,366	38,641,130	7,731,730	5,421,081	1,222,884	90,560,125	8,742,454
1893 .....	175,636,042	85,403,022	6,555,640	4,035,439	1,535,812	133,197,581	10,312,237
1894 .....	45,726,056	1,449,254	1,634,631	337,679	36,530,584	3,404,373	
1895 .....	265,726,348	106,516,023	16,595,637	14,722,090	2,692,642	144,438,335	13,155,902
1896 .....	228,647,543	117,633,750	19,512,199	12,992,576	3,121,030	98,121,217	9,511,225
1897 .....	350,250,028	200,485,006	34,307,110	37,949,945	7,182,664	110,814,987	11,729,623
1898 .....	70,333,668	18,122,092	3,320,651	3,865,652	776,583	48,345,894	4,608,455
1899 .....	9,388,192	7,883,053	1,655,954	2,190,370	572,205	65,644,769	6,225,080
1900 .....	128,250,945	19,369,622	3,760,696	9,910,979	2,094,373	98,970,344	9,181,151



The Class I and II wools are those used by the general wool manufacture. The Class III wools are coarse wools, used principally in the manufacture of carpets. The importations for consumption of the latter wools amounted to 656,371,205 pounds for the decade ending 1890 and 912,569,525 pounds for the succeeding decade, which gives an average annual supply of the Class III wools for the first of these decades of 65,637,120 pounds, and for the second decade 91,256,952 pounds, which was in each instance a smaller quantity than the imports for the corresponding census year.

For the purpose of comparison the Class I and II wools may be considered together, for these are the wools which enter into competition with wools of domestic production. The total of these wools imported for the decade ending 1890 is 238,592,448 pounds, the annual average 23,859,245 pounds. For the decade ending with 1900, these importations amounted to 679,402,018 pounds, the annual average being 67,940,201 pounds.

The very large importations of wool of all classes in the years 1895, 1896, and 1897 were preceded in 1894 and followed in 1898 and 1899 by the smallest importations for many years. From the close approximation in 1900 of the imports (128,250,945 pounds) to the quantity reported as used, it may be assumed that the oversupply of wool imported in the years 1895-1897 had been disposed of in the manufacture. It may be explained that the large imports of the years mentioned above (1895-1897) were not technically "entered for consumption," but, coming in during the free-wool period, they were not "entered in bond," but taken directly out of the Government's custody and held in public and private storehouses until the market called for them.

It appears also that the importations of Class I and II wools in 1898, 1899, and 1900 were below the average quantity and that the increased importations during the last three years of the decade were principally of Class III wools.

#### WOOL CONSUMPTION.

The consumption of foreign wool in 1900, in condition purchased, amounted to 139,881,799 pounds, of which 51,761,523 pounds used were the coarse wools of Class III consumed in the carpet manufacture. In addition to the raw wool consumed, these mills used 9,218,267 pounds of worsted yarn made in other mills, which was manufactured from imported wool, and required, on the basis of 2 pounds of wool to the pound of yarn, 18,436,534 pounds. This, added to the wool consumed in the mills, makes a total of 70,198,057 pounds of Class III wool accounted for in this manufacture. How much more imported Class III wool was used in the manufacture of the woollen yarn purchased for use in the carpet manufacture, amounting to 32,996,316 pounds, must be a matter of conjecture, but as the estimated total used falls short of the average quantity entered for consump-

tion for the decade by about 21,000,000 pounds, it is probable that not less than 10,000,000 pounds of foreign wool entered into the composition of these yarns. If, then, the sum of these items, or 80,198,057 pounds represents the consumption of foreign wools in the carpet industry, there remains of the average importations 11,068,868 pounds for use in the manufacture of the low-grade blankets and other coarse goods to which these wools are adapted. Assuming that the consumption of Class III wools equals the average importations, the remainder of the foreign wool used, 57,683,742 pounds, would be of Class I and II, of which the annual average importation for the decade was, as already stated, 67,940,201 pounds. The total imports of Class I and II wools entered for consumption for the last three years of the decade amounted to only 63,011,798 pounds, or about 5,000,000 pounds less than the average annual importations. This was much less than a normal supply, and the deficiency was made good from the excessive importations of preceding years.

In addition to the sheep's wool used, a considerable quantity of mohair, which is the hair of the Angora goat, camel's hair, and alpaca hair are consumed in the wool manufacture. The mohair and alpaca, for the most part imported, are included with the Class II wools, being suitable only for combing purposes. The camel's hair was formerly all considered a Class III wool, but under the present tariff it is divided between Classes II and III, that coming from China being of Class II and that from Russia of Class III. The importations of mohair and alpaca and similar hairs entered for consumption during the decade amounted to 12,577,814 pounds, the annual average being 1,257,781 pounds. The importations in 1900 were 1,829,892 pounds. Of camel's hair the imports for the ten years were 23,284,492 pounds, an annual average of 2,328,449 pounds. The importations of 1900 amounted to 1,446,338 pounds, of which 126,762 pounds were of Class II, the remainder being of Class III. The consumption of camel's hair and noils, which amounted to 7,684,804 pounds in 1890, has so decreased that the census of 1900 accounted for the use of only 2,994,427 pounds. In 1890 the consumption of mohair and mohair noils was reported at 2,136,244 pounds. In 1900 the quantity of alpaca, mohair, and mohair noils consumed was reported as 3,794,207 pounds. The consumption of buffalo, cow, and all other hair, which is used principally in the carpet manufacture and in the making of horse blankets and similar goods, amounted to 29,416,283 pounds, an increase of 12,550,519 pounds over 1890, when the quantity of such hair consumed was 16,865,764 pounds.

The total quantity of wool consumed "in condition purchased" in all branches of wool manufacture, and in hosiery and knit-goods factories, was 412,323,430 pounds, to which must be added the camel's hair, mohair, and alpaca used, and all other hair (36,204,917



pounds), and 25,000,000 pounds estimated as the proper addition on account of wool purchased in the scoured state, making a total of 473,528,347 pounds of wool and hair as the raw material of animal origin used in the manufacture. Besides the above, about 1,000,000 pounds of wool was consumed in the shoddy mills, in institutions, and in small establishments having a product of less than \$500 value. To ascertain the approximate quantity of animal fiber consumed there should be added a quantity equivalent to the amount of woollen and worsted yarns imported. In the fiscal year 1890, the importations of these yarns amounted to 3,229,778 pounds, but was very much less

in 1900, amounting to only 172,988 pounds, which may be reckoned as equivalent to 500,000 pounds of greasy wool, and makes the approximate consumption of wool in the grease 475,000,000 pounds. A similar calculation showed the consumption of 1890 to have been 434,000,000 pounds. The increase in consumption of animal fiber over 1890 is therefore 41,000,000 pounds, or 9.4 per cent.

The following statement, prepared from the census reports and the United States Treasury statements of imports, shows the per capita consumption of wool in the United States for each census year from 1840 to 1900, inclusive:

#### COMPARATIVE CONSUMPTION OF WOOL IN THE UNITED STATES: 1840 TO 1900.

[Imports and exports for year ending June 30.]

YEAR.	Imports of wool entered for consumption.	Home production of wool.	Domestic exports.	Net supply.	Imports of wool manufactures, allowing 8 pounds of wool to the \$1 in value.	Total consumption.	Per capita consumption of wool.
	Pounds. <sup>1</sup>	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
1840.....	29,813,212	35,802,114	.....	45,615,326	31,095,276	76,710,602	4.49
1850.....	18,695,294	52,516,969	85,898	71,176,365	53,178,618	129,354,978	5.53
1860.....	26,125,891	60,264,913	1,055,928	85,384,876	123,497,923	213,832,799	6.80
1870.....	38,634,067	162,000,000	152,892	200,481,175	105,289,422	305,770,597	7.93
1880.....	99,372,440	232,500,000	191,551	331,680,889	95,503,641	427,184,530	8.52
1890.....	109,902,105	276,000,000	231,042	385,671,063	162,496,269	548,167,332	8.75
1900.....	128,250,945	310,953,140	2,200,309	437,003,776	46,861,460	483,865,236	5.97

<sup>1</sup>Quantities for 1840, 1850, and 1860 are imports, less reexports.

<sup>2</sup>Year ending September 30.

<sup>3</sup>Census report includes wool and mohair, and pulled wool estimated at 33,000,000 pounds.

This statement is misleading, because the estimate of the quantity of wool in imported goods for the year ending June 30, 1900, is based upon an importation much less than the average amount. A fairer estimate would be one based on the average of such imports for a series of years. The imports of manufactures of wool averaged annually \$31,623,265 for the ten years 1891-1900, and for the last five years of the decade the annual average was \$28,837,019, which though smaller than the average for the decade is more than double the value of imports for the year under consideration. Making use of the latter statement as the more conservative, the wool required for the imported goods would be 86,511,057 pounds, or 39,649,597 pounds more than is given in the table. If, therefore, to the net supply as reported in the table this quantity is added, the total consumption would amount to 523,514,833 pounds. On the basis of the population as ascertained at the census of 1900 the per capita consumption of wool would equal 6.93 pounds, or about 1 pound more than the table shows. This is a reduction of 1.82 pounds in the per capita consumption as shown by the table for 1890, and can be accounted for by the increasing use of cotton in piece goods, and especially in hosiery and knitted garments for underwear. The consumption of cotton and cotton yarns in the hosiery and knit goods factories, which was 64,681,466 pounds in 1890, increased to 181,271,369 pounds in 1900, an increase of 116,589,903

pounds, thus supplanting an enormous quantity of wool flannels and undergarments.

#### COTTON AND COTTON YARNS.

The quantity of cotton used in the wool manufacture, exclusive of hosiery and knit goods, was 27,869,706 pounds in 1880, 42,996,248 pounds in 1890, and 43,414,502 pounds in 1900. A part of this cotton was used on the cards with wool, for the production of merino or mixed yarns, and part was spun into yarns for warp, for cotton-warp dress goods, linings, flannels, satinets, etc. At the census of 1900 the inquiry was made as to the number of pounds of cotton yarn made in the mills for use therein, and while the reports were not entirely satisfactory, the tabulations show 7,733,291 pounds of cotton yarn thus made. Besides the raw cotton used, the various branches of the wool manufacture consumed 55,217,994 pounds of cotton yarn, which required for its production about 65,000,000 pounds of raw cotton, so that the approximate consumption of this fiber in the manufacture was 108,000,000 pounds. In 1890 the same class of mills consumed 42,996,248 pounds of raw cotton and 51,376,019 pounds of cotton yarn, requiring for its production about 60,000,000 pounds of raw cotton, so that the total quantity of cotton used in the production of these mills at that time was approximately 103,000,000 pounds. The total quantity of cotton required for the

wool manufacture in 1900 appears to be 108,000,000 pounds, against 394,369,523 pounds of wool used. The cost of the cotton used in the wool manufacture was \$3,487,132, which, added to the cost of the cotton yarn consumed, \$9,568,864, makes \$13,055,996 as the cost of the cotton consumed. The value of foreign and domestic wool consumed was \$89,893,350.

## SHODDY.

The following statement shows the comparative quantities of scoured wool and shoddy used in the wool manufacture in all its branches in 1890 and 1900:

## COMPARATIVE STATEMENT OF WOOL AND SHODDY CONSUMED IN THE WOOL MANUFACTURE: 1890 AND 1900.

[Exclusive of hosiery and knit goods.]

	1900 (Pounds.)	Per cent of total.	1890 (Pounds.)	Per cent of total.
Scoured wool.....	238,632,452	76.9	19,174,021	77.7
Shoddy purchased .....	34,496,508	23.1	56,826,475	22.3
Shoddy made .....	37,000,000			
Total .....	310,128,960		255,000,496	

In addition to the shoddy purchased, it is estimated that 37,000,000 pounds were produced and used in the mills. This amount added to the 34,496,508 pounds purchased makes a total of 71,496,508 pounds of shoddy used in the wool manufacture in 1900, an increase of 14,670,033 pounds over the consumption in similar mills in 1890, although, because of the larger quantity of wool used, the percentage of wool and shoddy is about the same in each census. The increased production of worsted goods in which little shoddy is used makes the quantity of shoddy used in the carded wool manufacture much larger in proportion than it was ten years before.

## SCOURED WOOL, ANIMAL HAIR, SHODDY. AND COTTON USED: 1880-1900.

[Exclusive of the hosiery and knit-goods manufacture.]

	DATE OF CENSUS.			PER CENT OF TOTAL.		
	1900 (Pounds.)	1890 (Pounds.)	1880 (Pounds.)	1900	1890	1880
Total.....	443,431,261	375,635,079	283,086,551	100.0	100.0	100.0
Scoured wool, including camel's hair and mohair.....	244,216,894	207,584,746	167,684,157	55.1	55.3	59.2
Cotton and cotton yarn .....	98,682,496	94,372,267	58,481,712	22.2	25.1	20.7
Shoddy and animal hair, not specified .....	100,581,871	73,678,066	56,970,682	22.7	19.6	20.1

The percentage of scoured wool to other fibers used in all branches of the wool manufacture was 59.2, 55.3, and 55.1 per cent, respectively, in 1880, 1890, and 1900. Cotton, which includes the cotton yarn consumed, the two being combined, comprised 20.7 per cent in 1880, 25.1 per cent in 1890, and 22.2 per cent in 1900 of the consumption. The actual quantity of raw cotton used

was greater than the amounts shown by an amount equal to the difference between the quantity of yarn used and the number of pounds of raw cotton required for its manufacture.

The proportion of shoddy and animal hair used was 20.1 per cent in 1880, 19.6 in 1890, and 22.7 in 1900. The use of shoddy has made possible a greater supply of warm clothing than could have been obtained without it, while the mixture of cotton and cotton yarn with wool has made possible the production of soft, light-weight fabrics, well adapted for use where lightness, moderate warmth, and low cost are desired, and consequently the people are better clad than before these combinations were devised.

In the general tables there appears a large quantity of waste and noils of which no account is taken in the table above. These materials are products of the card and comb and spindle, thrown out in the earlier manufacturing processes in some mills, and purchased by others, being adapted to their use. They are wool that has never been made up into fabrics, and having been once reported as wool purchased can not again be properly counted in the material actually consumed. The so-called wastes are of various kinds, such as card waste, spinning waste, yarn waste, etc. The best of these materials is the noil, which is composed of short fibers of clean wool discarded in the combing process. It is very useful for many purposes, particularly in the manufacture of blankets and hosiery and knit goods.

## AVERAGE COST OF SCOURED WOOL.

The following statement shows the quantity and average cost of scoured wool consumed in the wool manufacture and in each branch of the industry in each of the last three census years.

## AVERAGE COST OF SCOURED WOOL CONSUMED IN THE WOOL MANUFACTURE AND IN EACH BRANCH: 1880 to 1900.

MILLS.	Year.	Quantity, pounds, scoured.	Cost.	Average cost per pound, cents.	Per cent of de- crease.
Total .....	1900	238,632,452	\$89,893,350	37.71	17.2
	1890	198,174,021	90,286,066	45.56	19.5
	1880	165,953,139	93,860,421	56.56	
Woolen mills .....	1900	89,366,903	34,497,680	38.60	20.8
	1890	100,220,094	48,359,811	48.75	20.6
	1880	100,724,213	67,380,260	61.41	
Worsted mills .....	1900	103,338,016	44,306,141	42.88	16.6
	1890	54,989,746	28,280,237	51.43	11.1
	1880	20,334,635	15,235,878	57.85	
Felt mills.....	1900	6,468,097	2,196,440	33.96	22.3
	1890	4,218,250	1,841,382	43.70	26.5
	1880	2,733,796	1,624,871	59.44	
Wool-hat mills.....	1900	1,898,605	788,973	41.55	13.4
	1890	3,018,114	1,448,799	48.00	34.7
	1880	3,597,279	2,644,293	73.50	
Carpet mills.....	1900	37,560,231	8,104,107	21.57	21.8
	1890	35,726,837	9,855,787	27.59	6.8
	1880	23,563,216	6,975,129	29.60	
Quantity of wool "in condition purchased" .....	1900	394,369,523	\$9,893,350	22.79	11.4
	1890	351,158,020	90,286,066	25.71	21.2
	1880	287,597,334	93,860,421	32.64	

The consumption has increased 43.8 per cent over 1880 and 20.4 per cent, equal to 40,458,431 pounds, over 1890. The decrease in average cost per pound has been 33½ per cent since 1880, and 17.2 per cent since 1890. The relative quantity used varied in the different branches of the industry, there being a reduced quantity used in the card wool mills and in the wool-hat factories; a comparatively small increase in the carpet mills; an increase of over 2,000,000 pounds, or more than 50 per cent, in the felt mills; and an increase of over 48,000,000 pounds, or 88 per cent, in the worsted manufactories. The decrease in average cost per pound varied in the several branches, the least reduction being in the wool-hat mills, 13.4 per cent, and the worsted factories, 16.6 per cent. The greatest reduction in average cost appears for the felt mills, 22.8 per cent. In the woolen mills it was 20.8 and in the carpet mills 21.8 per cent. Although the wool used in the last three differs greatly in quality, the average reduction in cost per pound shows only a slight difference. The reduction in the average cost of the wool used in all the mills was 17.2 per cent.

The average cost per pound seems low when compared with the weekly trade reports. These reports, however, include a few standard lines only, while the census reports combine the wool of all kinds and qualities. The variation in the cost of the wool used in the several branches is noticeable. The highest average of cost is found in the worsted mills, as would be expected, and the lowest in the carpet mills, which use the cheapest foreign wools. The cost of these scoured wools agrees very closely with the duty-paid value of the importations when reduced to the scoured basis.

#### DYESTUFFS AND CHEMICALS.

Under this head come expenditures for soap and potash for scouring wool, soap used in fulling and cleansing cloths, oil used in lubricating wool for carding and spinning, the various chemicals necessary in the manufacture, and dyestuffs for dyeing. The comparative cost of these items in the wool manufacture in 1900 and 1890 is as follows. The similar costs in the hosiery and knit-goods industry will be given elsewhere.

YEARS.	Dyestuffs and chemicals, value.	OIL.		SOAP.	
		Gallons.	Value.	Pounds.	Value.
1900 .....	\$7,988,684	3,501,582	\$1,039,879	36,136,593	\$1,379,886
1890 .....	5,889,612	3,715,114	1,239,012	32,643,591	1,106,359

This statement shows the cost of these materials used in the wool manufacture, but takes no cognizance of the large cost incurred for dyeing and printing yarns and cloths in outside establishments. A table on page 27 shows that the value added to woolen goods by these processes in the dyeing and printing establishments was \$4,240,456, which represents the cost to the woolen manufacture of finishing processes carried on away from the mills.

There is no available data indicating the extent to which artificial dyes have supplanted natural dyestuffs and coloring matter in the textile manufacture, although some idea of the magnitude of the change can be gathered by a comparison of the imports of natural and artificial dyeing materials in 1890 and 1900. The statement following shows the foreign value of these imports for each of the years, and where possible quantities are also stated. The production of synthetic indigo, which has by recent inventions been made commercially successful is perhaps the greatest recent step in advance in the production of artificial colors.

#### IMPORTS OF NATURAL AND ARTIFICIAL DYES AND DYESTUFFS ENTERED FOR CONSUMPTION, FISCAL YEARS 1890 AND 1900.

ARTICLES.		Unit.	1900		1890	
			Quantity.	Value.	Quantity.	Value.
NATURAL.						
Total .....				\$3,643,879		\$5,534,774
Logwood .....	Tons.	48,190	628,464	66,768	1,501,566	
Logwood, extracts of, etc.	Pounds.	3,420,276	227,527	2,928,600	222,029	
Camwood .....	Tons.	1	161			
Fustic .....	Tons.	4,440	60,886	10,922	157,187	
Other dyewoods .....	Tons.	20,967	205,351	2,184	64,482	
Cudbear .....	Pounds.	61,305	8,944	401,886	39,306	
Gambier .....	Pounds.	38,857,515	906,282	25,617,977	1,398,218	
Indigo:						
Crude .....	Pounds.	2,747,043	1,446,490	2,824,058	1,827,937	
Carmined .....	Pounds.	18,204	15,767	24,963	31,391	
Extracts, etc. ....	Pounds.	251,538	20,094	913,813	57,250	
Madder .....	Pounds.	120,786	5,869	912,866	52,000	
Orchil or orchil liquid .....			47,134		37,848	
Safflower and extracts, and saffron and saffron cake .....			44,502		49,736	
Cochineal .....		158,911	31,408	218,218	45,784	
ARTIFICIAL.						
Total .....			6,101,251		2,547,371	
Oil of aniline .....	Pounds.		537,812	610,875	97,601	
Salts of aniline .....			771,336		276,917	
Alizarin, etc. ....	Pounds.	6,009,552	771,336	2,155,020	858,882	
Coal-tar colors, n. e. s. ....			4,792,103		1,813,771	

#### YARNS PURCHASED.

Although the value of the woolen and worsted yarns consumed is an important item in the wool manufacture, other yarns are also used to a large amount. The first of the statements following shows the quantity and value of yarns purchased in the years 1880, 1890, and 1900, and the second the quantity and value of each kind of yarn purchased in each branch of the woolen industry in 1900. Comparisons with the reports of the census of 1890 show that the total quantity of yarn purchased has increased 45,449,515 pounds, of which 13,903,884 pounds were woolen, 9,710,054 pounds worsted, 3,841,975 pounds cotton, and 16,169,736 pounds jute. The quantity of linen yarn used has decreased 1,406,846 pounds and of silk yarns 96,636, while mohair yarns have disappeared from the list.

#### YARNS PURCHASED, 1880 TO 1900.

YEAR.	Pounds.	Cost.
1900 .....	181,104,221	\$45,588,968
1890 .....	136,654,706	42,142,403
1880 .....	55,535,390	20,814,334

## YARNS PURCHASED IN 1900.

	TOTAL.		WOOLEN MILLS.		WORSTED MILLS.		CARPET MILLS.		FELT MILLS.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Total.....	181,104,221	\$45,588,908	35,595,804	\$10,645,427	35,679,243	\$19,593,986	109,699,152	\$15,293,979	150,022	\$50,506
Woolen.....	38,903,178	7,705,787	3,050,771	1,272,954	2,847,091	1,402,189	32,996,316	5,030,654		
Worsted.....	34,377,786	23,068,988	6,214,076	4,791,079	18,896,863	14,704,172	9,218,267	3,544,860	48,530	28,877
Merino.....	3,904,515	709,894	3,215,245	516,036	419,484	147,891	237,970	38,994	31,866	6,873
Cotton.....	55,217,994	9,568,864	21,922,136	3,782,240	18,420,580	3,032,039	19,823,561	2,744,928	51,707	9,657
Silk.....	70,073	884,001	34,007	145,614	144,971	9,634	48,455	14	61	
Spun silk.....	250,270	489,587	23,957	72,632	47,533	166,672	178,780	250,233		
Linen.....	8,415,275	1,178,414	7,845	6,998	1,314	1,052	8,388,211	1,164,826	17,905	5,538
Jute, ramie, or other yarns of vegetable fiber.....	39,965,180	2,533,413	1,118,767	57,384			38,846,413	2,476,029		

## DYEING AND FINISHING.

The products of the wool manufacture are of three classes, goods dyed in the wool, in the yarn, and piece dyed goods, the names of which are sufficiently descriptive. Most manufacturers have their own dyeing and finishing plants, but in many cases the goods are sent to some outside dyeing establishment to be dyed and finished. The cost of this work is an important item to the manufacturer. The following statement shows the quantity of goods operated on in dyeing and finishing mills, and the value added by the process:

MATERIALS	Quantity dyed (pounds).	Added value.
Total.....		\$4,240,456
Wool.....	2,408,511	83,071
Woolen yarn.....	20,755,984	557,001
Worsted yarns.....	8,474,562	491,291
Woolen piece goods.....	11,248,394	451,864
Worsted piece goods.....	19,413,387	476,951
Mixed goods.....		2,180,278

<sup>1</sup> Square yards.

## PRODUCTS.

The value of products as given in the tables is the gross value as ascertained from the various schedules. This value includes much duplication, for not infrequently the finished product of one establishment enters as a material into another, and after going through certain manipulations appears again as a product, to again enter another establishment as material. In a wool-combing establishment, for instance, the top is produced and sold to the worsted spinning mill, where it is made into yarn, which is sold to the worsted cloth or dress goods weaver, in whose hands it becomes the finished product, ready for the clothing manufacturer or the market, as the case may be. Thus, the value of the top and the value of the yarn, as well as the value of the finished cloth, all appear in the total value of products, while it is clear that the true value is the value of the finished cloth. If, as was formerly the custom in all and is now the practice in many establishments, all these processes were carried on under one management, these duplications of value would not arise. At the Eleventh Census it was found impossible to eliminate these duplications, but at the census of 1900 the schedules were so prepared as to permit of the separation of the materials used into raw materials upon which no manufacturing processes have been employed and materials purchased in partly manufactured form.

## GROSS AND NET VALUES.

The value of the products of the wool manufacture was \$296,990,484 in 1900, compared with \$270,527,511

in 1890, an increase of 9.8 per cent. These values are in each case the gross value, ascertained by the addition of the sums representing the production of the various establishments, many of which make only yarn, or other partially manufactured products, which enter into other factories for further manipulation.

In 1890 the true value was ascertained as nearly as possible by deducting the value of woolen and worsted yarns purchased, less the duty paid value of foreign yarns purchased. The sum thus ascertained was assumed to be the true value of the production of all woolen mills. To this sum was added the true value of the product of the shoddy mills, similarly ascertained, to obtain the total net value.

In the reports for the Twelfth Census the items duplicated are as follows:

All wastes and noils, tops, woolen, worsted, and merino yarns, hat bodies, and hats in the rough. These being made in woolen mills, enter twice into the value of product, being reported first by the mills making them and afterwards by the mills using them. Their value and also the sum paid for contract work should be taken from the total value ascertained for goods produced.

The result obtained by the elimination of these items will not be strictly comparable with the amount obtained as the net value in 1890, but will be as nearly as possible the net value of the product of the industry.

The cost of all duplicated items in the wool manufacture in all its branches is \$41,391,681. This sum does not include \$21,982 for fur hat bodies and hats in the

rough reported under wool hats. From it the duty paid value of foreign yarns, \$228,872, imported during the census year, should be subtracted, which leaves \$41,162,809 as the cost of material twice reported in the value of product. The difference between this sum and the gross value, or \$255,827,675, is the net or true value of products in these mills in 1900.

The following is a statement of woven goods produced in 1900 and 1890, arranged according to their classification as all wool, mixed, and cotton-warp fabrics:

WOVEN GOODS PRODUCED IN WOOLEN AND WORSTED MILLS, 1890 AND 1900, WITH PER CENT OF INCREASE.

CLASSES.	Year.	Square yards.	Per cent of increase.	Value.	Per cent of increase.
Total.....	1900 1890	426,572,856 381,004,461	12.0	\$188,806,664 169,409,239	8.2
All wool, whether woollen or worsted.....	1900 1890	216,359,702 130,115,152	66.3	117,757,169 81,742,586	44.1
Union or cotton mixed.....	1900 1890	57,334,570 56,322,882	1.8	23,111,696 24,804,966	14.9
Cotton warp, with weft partly or wholly of wool, worsted, or hair (or cotton weft with warp of wool).....	1900 1890	152,878,584 194,566,427	121.4	42,487,799 63,361,687	133.0

<sup>1</sup> Decrease.

The following table shows the products of the wool manufacture, of all classes, in 1890 and 1900:

TABLE 14.—WOOL MANUFACTURES: KIND, QUANTITY, AND VALUE OF PRODUCTS, 1890 AND 1900, WITH PER CENT OF INCREASE.

CLASSES.	1900	1890	Per cent of increase.
Total.....	\$296,990,484	\$270,527,511	9.8
Woolen, worsted, union, and cotton warp cloths, coatings, cassimeres, jeans, etc., for men's wear, square yards.....	169,177,028	122,064,528	38.6
Value.....	\$97,852,209	\$88,261,748	10.9
Woolen, worsted, union, and cotton warp overcoatings, cloakings, etc., for men's and women's wear, square yards.....	29,647,495	14,883,893	99.2
Value.....	\$21,666,019	\$13,082,801	65.6
Woolen, worsted, union, and cotton warp dress goods, stockings, tricots, opera flannels, cassimeres, bunnings, ladies' cloth, alpaca, etc., for women's wear, square yards.....	155,767,439	127,259,709	22.4
Value.....	\$45,278,216	\$32,285,906	40.2
All wool, union, and cotton warp flannels, square yards.....	20,117,663	61,195,501	167.1
Value.....	\$4,613,129	\$18,582,549	175.2
Satinets, square yards.....	13,051,729	18,630,656	129.9
Value.....	\$2,873,181	\$4,296,082	133.1
Linings, Italian cloth, and lastings, square yards.....	10,157,039	4,585,080	121.5
Value.....	\$2,228,424	\$1,255,520	77.5
Jersey cloth, square yards.....	2,784	7,476	162.8
Value.....	\$1,010	\$13,686	192.6
Carriage cloths, square yards.....	1,220,408	1,282,921	14.9
Value.....	\$996,999	\$626,791	11.2
Total piecegoods—			
Square yards.....	399,141,585	349,909,764	14.1
Value.....	\$175,209,197	\$158,405,033	10.6
Woven shawls of wool or worsted, square yards.....	600,104	4,758,652	187.4
Value.....	\$500,623	\$2,098,523	176.1
All wool, union, and cotton warp blankets, square yards.....	18,155,505	20,793,644	112.7
Value.....	\$5,200,959	\$7,153,900	27.3

<sup>1</sup> Decrease.

TABLE 14.—WOOL MANUFACTURES: KIND, QUANTITY AND VALUE OF PRODUCTS, 1890 AND 1900, WITH PER CENT OF INCREASE—Continued.

CLASSES.	1900	1890	Per cent of increase.
All wool, union, and cotton warp horse blankets, square yards.....	7,315,304	5,507,074	32.8
Value.....	\$1,740,988	\$1,721,516	1.1
Carriage robes, square yards.....	1,740,089	775,963	124.2
Value.....	\$987,109	\$646,904	52.6
Total—			
Square yards.....	27,811,002	31,895,333	112.6
Value.....	\$8,429,579	\$11,620,843	127.5
Woolen, worsted, and union upholstery goods, square yards.....	541,909	4,131,288	186.9
Value.....	\$786,461	\$2,365,881	168.8
Braids and picture cards, etc., running yards.....	( <sup>2</sup> )	133,859,751	.....
Value.....	\$2,922,850	\$1,268,252	180.5
Total value.....	\$3,709,311	\$3,634,133	2.1
Ingrain carpets, 2 and 3 ply and ingrain art carpets, square yards.....	42,352,500	36,726,370	15.3
Value.....	\$15,405,081	\$15,924,452	13.3
Tapestry and body Brussels, tapestry velvet, Wilton, Axminster, and Moquette carpets, running yards.....	32,423,883	36,536,565	111.3
Value.....	\$21,036,996	\$27,125,980	122.4
Smyrna carpets, square yards.....	858,189	127,177	574.8
Value.....	\$1,188,707	\$832,718	257.3
All other carpets, square yards.....	( <sup>3</sup> )	1,394,153	.....
Value.....	( <sup>4</sup> )	\$451,486	.....
Smyrna rugs, square yards.....	2,793,472	41,480,086	( <sup>4</sup> )
Value.....	\$2,491,911	\$2,368,000	5.2
All other rugs, square yards.....	6,195,054	133,767	( <sup>4</sup> )
Value.....	\$3,460,077	\$261,781	1,221.7
Total value of carpets and rugs.....	\$43,582,772	\$46,464,417	16.2
Felt cloths, endless belts, trimmings, linings, etc., square yards.....	6,933,524	6,662,759	4.1
Value.....	\$3,078,949	\$2,930,199	6.1
All other felts, value.....	\$2,285,340	\$1,284,825	77.9
Total value of felt goods.....	\$5,364,289	\$4,214,824	27.3
Wool hats, dozens.....	823,425	1,046,481	121.8
Value.....	\$3,166,761	\$5,229,176	189.4
Wool-hat bodies, dozens.....	56,006	( <sup>5</sup> )	.....
Value.....	\$120,262	( <sup>5</sup> )	.....
Woolen and union or merino yarns, pounds.....	49,796,682	41,362,993	20.4
Value.....	\$11,748,805	\$12,590,267	16.7
Worsted and mohair yarns, pounds.....	46,784,385	29,859,182	59.4
Value.....	\$32,095,805	\$22,397,721	43.3
Cotton yarns, pounds.....	3,631,992	3,192,935	10.6
Value.....	\$527,046	\$682,849	116.7
Wool rolls, nolls, waste, and all other partly manufactured products, pounds.....	23,283,240	12,850,039	81.2
Value.....	\$5,231,377	\$3,176,653	64.7
Total yarns and partly manufactured products:			
Value.....	\$49,723,385	\$38,797,490	28.2
Woolen, merino, and cotton half hose, dozens.....	4,290	2,488	76.0
Value.....	\$13,520	\$7,721	75.1
Woolen, merino, and cotton hose, dozens.....	908	9,147	160.1
Value.....	\$3,302	\$21,363	184.5
Gloves and mittens, dozens.....	1,283	1,981	155.9
Value.....	\$4,641	\$6,950	188.2
Total value of hosiery and knit goods.....	\$21,463	\$36,084	140.4
All other products, <sup>6</sup> value.....	\$6,170,073	\$1,971,524	213.0
Contract work, value.....	\$1,613,054	\$154,337	945.2

<sup>1</sup> Decrease.

<sup>2</sup> Not reported.

<sup>3</sup> Nothing reported under this heading.

<sup>4</sup> Number of rugs reported in 1890; square yards reported in 1900.

<sup>5</sup> All other products include, in addition to the usual miscellany, some small amounts of hosiery and knit goods that were not reported in both censuses; hence they could not be compared.

The first group, woolen cloths, etc., the piece-goods production, as shown in Table 30, shows an increase in 1900 over 1890 of 49,231,821 square yards in quantity, and \$16,804,164 in value. In the second group, shawls, blankets, and carriage robes, there is a decrease both in quantity and value. The quantity is 4,024,331 square yards and the value \$3,191,264 less than in 1890. The third group likewise shows a reduction which evidently

arises from a change in classification which makes it appear that only 541,909 square yards of upholstery goods were made in 1900, against 4,131,288 square yards in 1890. That no such falling off in the manufacture occurred is certain, and the products have been reported under the head of all other products, or with other piece goods. In the carpet manufacture the yardage exceeds the yardage reported in 1890, but the value is reduced \$2,881,645, which is accounted for by the lower cost of materials, and the larger production of the lower grades of carpets. The products of the felt manufacture have increased both in quantity and value. The wool-hat manufacture shows a decrease.

The production of partially manufactured products for sale shows a large increase, of which the greater part is in yarns. In 1890 the production of yarns equalled 73,915,111 pounds, valued at \$35,620,837. At the census of 1900 the production was 100,113,009 pounds, worth \$44,371,746, an increase of 35.4 per cent in quantity and of 24.6 per cent in value. The value reported for all other products has increased nearly one-half. An item not previously reported, appears here, namely, "Contract work," being the amount received in certain mills for work done for other establishments. It is properly added to the gross product, but is offset by the sums reported as paid for contract work under the head of miscellaneous expenses.

## CLASS I—WOOLEN GOODS.

The card-wool branch of the wool manufacture has always been preeminent in the variety of its products and their adaptability to the needs of the consumer. It is also numerically the most important. It is in the woolen mills that the great mass of goods required for clothing the people has been made. The products consist of broadcloths, doeskins, cassimeres, satinets, jeans, flannels, blankets, woolen and cotton mixed dress goods, linings, etc. At the census of 1900 the industry seems to be in danger of yielding its relative importance. The introduction of the worsted cloth for men's wear and the wonderful development of the knit-goods manufacture have made great inroads on the consumption of carded wool goods which formerly were necessities, substituting combed wool fabrics for men's wear and knitted underwear in place of flannels. Principally for these reasons the returns show a falling off in every particular, and it is only in woolen goods and in the wool hat manufacture that the wool industry shows loss. The reduction in the number of establishments may be attributed mainly to the gradual disappearance of small country mills and to some extent to the transfer of mills from the carded to the combed wool manufacture.

The following table is a summary of the statistics of the woolen-goods manufacture from 1840 to 1900, with per cent of increase for each decade:

TABLE 15.—WOOLEN GOODS: COMPARATIVE SUMMARY, 1840 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.							PER CENT OF INCREASE.					
	1900	1890	1880	1870	1860	1850	1840	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870	1850 to 1860	1840 to 1850
Number of establishments.....	1,035	1,311	1,990	2,891	1,260	1,559	1,420	121.1	134.1	131.2	129.4	119.2	9.8
Capital <sup>2</sup> .....	\$124,386,262	\$130,989,940	\$96,095,564	\$98,824,531	\$30,862,654	\$28,118,650	\$15,765,124	15.0	36.3	12.8	220.2	9.8	78.4
Salaries of officials, clerks, etc., number.....	2,246	2,436	(4)	(4)	(4)	(4)	(4)	17.8					
Salaries.....	\$2,934,048	\$2,339,737	(4)	(4)	(4)	(4)	(4)	25.4					
Wage-earners, average number.....	68,893	76,915	86,504	80,053	41,360	39,262	21,842	110.4	111.1	8.1	93.6	5.4	88.9
Total wages.....	\$24,757,006	\$26,139,194	\$25,836,392	\$26,877,575	\$9,610,254	(4)	(4)	15.3	1.2	13.9	179.7		
Men, 16 years and over.....	40,001	42,130	46,978	42,728	24,841	22,678	(4)	13.6	110.3	9.9	72.0	9.6	
Wages.....	\$16,913,781	\$17,059,323	(4)	(4)	(4)	(4)	(4)	10.9					
Women, 16 years and over.....	24,586	30,159	29,372	27,682	16,519	16,574	(4)	18.6	2.7	6.1	67.6	10.8	
Wages.....	\$7,218,087	\$8,371,274	(4)	(4)	(4)	(4)	(4)	13.8					
Children, under 16 years.....	3,757	4,626	10,154	9,643	(4)	(4)	(4)	118.6	154.4	5.3			
Wages.....	\$625,188	\$708,597	(4)	(4)	(4)	(4)	(4)	118.8					
Miscellaneous expenses.....	\$7,268,634	\$8,402,623	(5)	(5)	(5)	(5)	(5)	118.8					
Cost of materials used.....	\$71,011,956	\$82,270,335	\$100,845,611	\$96,432,601	\$36,586,287	\$25,755,991	(5)	115.6					
Value of products.....	\$118,430,158	\$133,577,977	\$160,606,721	\$155,405,358	\$61,894,986	\$43,207,545	\$20,696,999	113.7	118.4	4.6	168.6	42.0	
Number of spindles.....	1,900,581	1,815,980	1,756,746	1,845,496	(5)	(5)	(5)	111.3	116.8	3.3	151.1	43.8	108.8
Number of looms.....	34,881	39,118	36,634	34,183	(5)	(5)	(5)	6.0	3.3	14.8			
					(5)	(5)	(5)	10.8	9.8	4.2			

<sup>1</sup> Decrease.

<sup>2</sup> Does not include the value of rented property.

<sup>3</sup> Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 81.)

<sup>4</sup> Not reported separately.

<sup>5</sup> Not reported.

The high-water mark of production in the woolen goods branch of the wool manufacture was reached in 1880 before the worsted cloth had become the popular fabric. Since that time there has been a continual decrease. From 1880 to 1890 the decrease was 16.8 per cent, and amounted to \$27,028,744 in value. In the last

decade the decrease was 11.3 per cent, and the actual decrease \$15,147,819. These totals do not, however, indicate the relative production of goods, for both decades were periods of falling values, and, therefore, the production measured by the square yard or pound would not show at either census so large a decrease.



The quantity of wool consumed in woolen mills in 1900 was only nine-tenths of the quantity consumed in 1890, and was about 20,000,000 pounds less than was used in 1880, the wool used in each case being measured by the scoured pound. The quantity of cotton used, while 10,000,000 pounds less in 1900 than in 1880, is 2,000,000 pounds more than was used in 1890. The quantity of shoddy used embraces the quantity purchased—31,228,940 pounds—and the quantity made in the woolen mills—35,626,165 pounds—and shows an increased consumption of about 15,000,000 pounds.

The quantity of shoddy used in these mills was 66,855,105 pounds. The proportions of clean shoddy and clean wool used were respectively 31.5 and 48.1 per cent of the raw material consumed in the card wool manufactures. A considerable portion of the fibers other than raw wool used in these mills was consumed in the manufacture of horse blankets and carriage robes, the production of which increased from 6,283,037 square yards in 1890 to 9,055,393 in 1900, or nearly 50 per cent. The manufacture of carpet yarns also required a large amount.

*Cloths, Cassimeres, etc.*—The most important department of the carded-wool manufacture is the manufacture of men's-wear goods, known as broadcloths, cassimeres, fancy cassimeres, satinets, and jeans. Of the first named but a comparatively small quantity is now made, the worsted cloth having taken its place. The all-wool cassimere has also given place to a great extent to the worsted cassimere, which has won popular favor by its more dressy appearance. The greater part of the goods for men's wear made in the woolen mills in 1900 were of the union and cotton warp classes, although the proportion, measured in square yards, was not so great as in 1890. This change is to be accounted for by the popularity of light flannels, slightly full, finished with a smooth face and used for summer suitings. The production of all-wool cloths—cassimeres, flannels, etc.—for men's wear in 1890 was 25,637,998 square yards, valued at \$24,076,808, an average of 93.9 cents per square yard. In 1900 the production of similar goods amounted to 34,551,266 square yards, with a value of \$22,860,783, averaging 66.2 cents. The increase in yardage has been nearly sufficient to overcome the decrease in the average value per yard, and this particular group of goods shows a total decrease in value in consequence of only \$1,216,025. The reduction in average cost of the wool consumed, which is 11.5 per cent in woolen mills, accounts to some extent for the reduced value of the production.

The popularity of light woolen suitings for men's summer use without doubt accounts for the increased quantity of goods manufactured and also for the greater part of the reduction in the average value per yard.

*Union or Mixed Goods for Men's Wear.*—This class of goods shows an increase both in quantity and value. The production in 1890 was 21,042,283 square yards,

valued at \$12,720,597. The production in 1900 was 30,767,915 square yards, worth \$13,695,830. The average value per square yard was 60.5 cents in 1890 and 44.5 cents in 1900.

*Cotton-warp Goods.*—The goods made on a cotton warp with a weft of wool or mixed wool and cotton, of which the satinet is the type, are the next in importance. They are known under various names, such as cassimeres, doeskins, tweeds, jeans, satinets, etc., but all have the cotton warp for their foundation. They are of low cost, but of comparatively durable quality and furnish clothing at low price and of slightly appearance. At the census of 1890 the production of these goods was reported to be 65,545,016 square yards, valued at \$23,460,847, an average of 35.8 cents per yard. The present census shows quite a reduction, both in quantity and value, the figures being 50,212,178 square yards, the value \$13,897,719, and the average per yard 27.7 cents.

The manufacture of satinets has decreased from 18,630,656 square yards, valued at \$4,296,082, in 1890, to 13,051,729 square yards, valued at \$2,873,181, in 1900. The average value per square yard has also been reduced from 23.1 to 22 cents. The manufacture of jeans, linseys, etc., of which, at the census of 1890, 17,126,217 square yards were reported, has become greatly reduced. They are not reported separately at this time, but combined with cotton-warp cassimeres, etc., which accounts in some measure for the increase of 8,589,231 yards in the goods reported under that head.

Of these two groups, union and cotton warp fabrics, the total production in 1890 was 86,587,299 square yards, and in 1900 it amounted to 80,980,093 square yards. The consumption of cotton yarn and of cotton in the woolen mills, in which nearly all these goods were made, in the last two census years was as follows:

	1900	1890
	Pounds.	Pounds.
Cotton.....	34,967,959	36,993,712
Cotton yarn.....	21,922,136	23,990,406

*Flannels.*—The production of cloths for men's wear owes much of its apparent increase to the fact that many light-weight goods are really flannels, although, from the use for which they are made, they are classed as cloths. Many more of similar character, but different finish, and classified as dress goods, and have thus been taken from the flannel tabulation. There still remains, however, a large quantity of flannels made for underwear, including all grades from the finest silk-mixed to the coarsest white flannel and the heavy substantial scarlet or blue twilled flannel so popular for shirtings for many years. All of these flannels have encountered serious competition from the knitted underwear, which, from its low price and satisfactory charac-

ter, has made serious inroads on the consumption, and therefore the production, of underwear flannels. The census of 1890 showed the production of 61,195,501 square yards, valued at \$18,582,549, which were classified as flannels proper. The returns for 1900 account for only 20,117,663 square yards, valued at \$4,618,129. There is no doubt that a portion of this decrease is owing to changed classification on schedules, but many of the most important mills formerly engaged in the general flannel manufacture have devoted a large part of their energies to the production of light cloths for dress goods and suitings.

*Blankets.*—An important department of the wool manufacture is the production of blankets, including horse blankets and carriage robes. These are of all grades, from the bed blanket made of the finest wool, of firm texture, of heavy weight, highly gigged and soft as down, to the coarsest horse blanket made with a cotton warp and of animal hair. The production of blankets proper shows a decrease. In 1890 the quantity reported was 20,793,644 square yards, valued at \$7,153,900; in 1900 it was 18,155,505 square yards, valued at \$5,200,959. The quantity of horse blankets manufactured has increased from 5,507,074 square yards in 1890 to 7,315,304 square yards in 1900. The value, however, has increased but very little. In 1890 it was \$1,721,516, and in 1900, \$1,740,988.

The manufacture of carriage robes shows a decided increase, both in volume and value, the figures being, for 1890, 775,963 square yards, valued at \$646,904, and, in 1900, 1,740,089 square yards, valued at \$987,109.

*Shawls.*—The shawl manufacture, which showed a great decrease in 1890 shows a still further reduction in 1900. The prevailing fashion for cloth and fur garments for ladies' use and for knitted shawls and similar wraps, has so reduced the demand for woven shawls that the reports show the production of only 600,104 square yards, valued at \$500,523, which is only one-seventh of the quantity and one-fourth of the value of the shawls produced in 1890.

*Woolen Dress Goods.*—The production of all-wool dress goods has increased largely since 1890, while at the same time the cotton-warp product shows a reduction. The statistics are given under the head of dress goods in connection with the worsted manufacture.

## CLASS II—WORSTED GOODS.

The next great division of the wool manufacture is the combed-wool branch, in which are manufactured worsted cloths and suitings, worsted dress goods, upholstery goods and braids, and large quantities of worsted yarns for use in the carpet manufacture. The worsted mills are distinguished from the woolen mills by the initial processes to which the fiber is subjected. In the early days of the wool manufacture in this country carded-wool products only were produced, partly because of the more simple character of the operations, and partly from the fact that the wool of Merino sheep raised here was not well adapted to the combing process as carried on by hand, or by early combing machines, for a long-staple wool was required to produce the best results. The improvements in the combing machine, which enables it to comb wool of short staple, and the adaptation of our wools to the combing process consequent upon the crossing of the Merino sheep with those of English blood, have resulted in the phenomenal growth of this industry.

It is claimed that John Marland, at a mill in Ballardvale, Mass., made, in 1843, the first attempt to manufacture worsted goods in the United States. He undertook the manufacture of delaines, both printed and piece dyed, but was not very successful. Other attempts were made by the Amoskeag Mills and the Manchester Mills, at Manchester, N. H., the latter company introducing their first combing machine in 1855. The Pacific Mills at Lawrence imported from England six Lister combs in 1854, and these are believed to have been the first combing machines of this pattern set up in the United States. The Hamilton Woolen Company, at Southbridge, Mass., commenced the manufacture of dress goods at about this time. The Washington Mills, of Lawrence, Mass., soon followed, manufacturing all-wool worsted dress goods. It was not until about 1869 or 1870, that the manufacture of worsted cloths for men's wear was commenced in the United States.

The following table shows the development of the industry since 1860, at which time only three worsted mills, the Manchester, Pacific, and Hamilton, were found in this country:



TABLE 16.—WORSTED GOODS: COMPARATIVE SUMMARY, 1860 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.					PER CENT OF INCREASE.			
	1900	1890	1880	1870	1860	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870
Number of establishments.....	186	143	76	102	3	80.1	88.2	125.5	3,800.0
Capital.....	\$132,168,110	\$68,085,116	\$20,374,048	\$10,085,778	\$3,230,000	94.1	234.2	102.0	212.3
Salaried officials, clerks, etc., number.....	1,809	1,615	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>3</sup> )	122.6			
Salaries.....	\$2,342,218	\$935,217	( <sup>4</sup> )	( <sup>5</sup> )	( <sup>6</sup> )	150.4			
Wage-earners, average number.....	57,008	42,973	18,808	12,920	2,378	32.6	128.6	45.5	443.3
Total wages.....	\$20,092,738	\$14,944,966	\$5,083,027	\$4,308,857	\$543,684	34.4	163.0	30.1	703.6
Men, 16 years and over.....	25,595	19,071	6,435	3,864	1,101	34.2	196.4	66.5	251.0
Wages.....	\$11,300,071	\$8,430,625	( <sup>7</sup> )	( <sup>8</sup> )	( <sup>9</sup> )	34.0			
Women, 16 years and over.....	25,829	20,082	9,473	7,152	1,277	28.6	112.0	32.5	460.1
Wages.....	\$7,831,109	\$5,877,717	( <sup>10</sup> )	( <sup>11</sup> )	( <sup>12</sup> )	38.2			
Children, under 16 years.....	5,584	3,825	2,895	1,904	( <sup>13</sup> )	46.0	32.1	52.0	
Wages.....	\$901,558	\$630,024	( <sup>14</sup> )	( <sup>15</sup> )	( <sup>16</sup> )	51.0			
Miscellaneous expenses.....	\$6,767,611	\$4,917,760	( <sup>17</sup> )	( <sup>18</sup> )	( <sup>19</sup> )	37.6			
Cost of materials used.....	\$77,075,222	\$50,706,769	\$22,013,628	\$14,308,198	\$2,442,775	52.0	130.3	83.9	485.7
Value of products.....	\$120,314,344	\$79,194,652	\$33,549,942	\$22,090,351	\$3,701,378	61.9	136.1	51.9	496.8
Number of spindles.....	1,371,026	755,080	240,118	200,617	( <sup>20</sup> )	81.6	214.5		
Number of looms.....	26,372	19,095	14,411	6,128	( <sup>21</sup> )	38.1	32.5	135.2	
Number of combing machines.....	1,194	673	283	161	( <sup>22</sup> )	77.4	133.7	78.9	

<sup>1</sup> Decrease.<sup>2</sup> Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 32).<sup>3</sup> Not reported separately.<sup>4</sup> Not reported.

The table reveals a continuous growth of the industry since 1870, notwithstanding the reduction in number of factories between 1870 and 1880. On the basis of the averages per establishment the comparison of growth from decade to decade is still more striking. In 1860 only the three large establishments previously referred to existed. Their capital as reported averaged over \$1,000,000, with a consumption of materials exceeding \$800,000, and a product averaging nearly \$1,234,000. These same factories are carrying on the business to-day, and have had their influence in maintaining the average ratios in each of the other decades. The tabular statement following exhibits the averages in capital, cost of materials consumed, and value of product for each decade, but, because of the different methods of reporting the number of wage-earners, a similar statement of wages is not possible.

	1900	1890	1880	1870	1860
Establishments.....	186	143	76	102	3
Average capital employed.....	\$710,581	\$476,120	\$267,080	\$98,880	\$1,076,666
Average cost of materials.....	\$414,383	\$354,593	\$239,653	\$140,276	\$314,258
Average value of products.....	\$646,851	\$553,809	\$441,447	\$216,672	\$1,233,793

The statement shows a steady increase per establishment in each of the items, and, in connection with the table preceding, emphasizes not only the growth of the industry as a whole, but the progressive growth of the individual establishments. In 1870 the capital employed was only \$98,880 per establishment. In 1880 it had increased \$168,200. In 1890 there had been a still further increase of \$209,040, and in 1900 an additional increase of \$234,461, so that in that year the average capital employed per establishment was \$710,581. Similar gains, although not in so large a ratio, were made, both in materials used and in products, the first showing an increase from \$140,276 in 1870 to \$414,383 in 1900, and the other increasing from \$216,672 to \$646,851.

A very interesting feature, which is more apparent in this statement than in the preceding table, is the fact that the relation of cost of materials to value of products varies but very slightly in the four census reports, being in each case very nearly in the ratio of 2 to 3.

*Worsted Cloths.*—The most important division in value, if not in quantity, of the worsted industry is the production of cloths for men's wear. As has been stated, this manufacture was not begun in the United States until about 1870. Several mills claim the distinction of being the first to produce such goods in this country, the Washington, at Lawrence, Mass., the Hockanum, at Rockville, Conn., and the Wanskuck, at Providence, R. I. The cost of the necessary machinery; the unsuitable character of domestic wools; the heavy duty on suitable foreign wools, preventing to some extent their importation; all tended to hamper the introduction and growth of this manufacture in the United States. In spite of adverse conditions, the industry took root and grew so rapidly that the quantity of all-wool worsted coatings, cassimeres, etc., for men's wear, manufactured in 1890, amounted to 17,591,087 square yards, valued at \$22,386,452.

The result is seen in the splendid growth of the industry in the last decade from 143 establishments, with \$68,085,116 capital and products valued at \$79,194,652, in 1890, to an industry represented in 1900 by 186 establishments, with a capital of \$132,168,110 and a production valued at \$120,314,344.

The quantity of all-wool worsted coatings, suitings, overcoatings, etc., manufactured in 1900 was 54,910,812 square yards, valued at \$43,570,940, which is three times the quantity of such goods made in 1890 and nearly twice the value. There were also manufactured 12,663,719 square yards of cotton-warp worsteds, valued at \$7,267,508. The production of these goods in 1900 was about the same as in 1890. The importation of all

cloths for men's wear entered for consumption in the fiscal year ending June 30, 1900, was 4,860,777 pounds, having a duty-paid value of \$9,743,384. They were high-class goods, averaging to cost, landed, about \$2 per pound. As the Treasury reports of importations give the quantity of these goods in pounds, it is impossible to tell the yardage which these imports represent. Assuming, however, 12 ounces per square yard as a fair average, the importations for the year would represent 6,500,000 square yards, valued at about \$1.50 per yard. These importations are nearly all worsted cloths, as very few woolen cloths are imported. How nearly the manufacturers of the United States come to supplying the home market is seen in the fact that the production of worsted suitings and overcoatings amounted to 67,574,531 yards, valued at \$50,838,448, or more than 91 per cent of the total supply, as ascertained by combining the imports with the home production.

*Dress Goods.*—Men's wear goods are divided into the two general classes of woolens and worsteds, which are further subdivided into all-wool, cotton-warp, and cotton-mixed goods. The same divisions and subdivisions exist in the dress fabrics for women's wear. The quantities and values of each class are shown herewith:

DRESS GOODS MANUFACTURED IN 1900.

	WORSTED.		WOOLEN.	
	Square yards.	Value.	Square yards.	Value.
All wool .....	57,712,086	\$16,316,392	33,597,692	\$12,978,546
Cotton warp and cotton mixed .....	45,784,011	10,423,206	7,496,898	1,890,488
Total .....	103,496,097	26,739,598	41,094,590	14,869,034
			Square yards.	Value.
Total worsted dress goods .....			103,496,097	\$26,739,598
Total woolen dress goods .....			41,094,590	14,869,034
Total dress goods .....			144,590,687	41,608,632

In addition to the above there were manufactured 11,176,752 square yards of sackings, tricots, opera flannels, etc., all of which are practically dress goods or used for the same purpose, valued at \$3,669,584, making the total of fabrics for women's wear 155,767,439 square yards, with a value of \$45,278,216.

*Worsted Dress Goods.*—The production of worsted dress goods is much the most important part of the dress goods manufacture. In 1860 the 3 mills engaged in the business produced goods to the value of \$3,701,378, for which no quantity was reported. At the census of 1900 the production of worsted dress goods was reported at 103,496,097 square yards, having a total value of \$26,739,598. Of these 57,712,086 square yards were made entirely of wool, and 45,784,011 square yards of wool weft with a warp of cotton, or vice versa. The value of all wool fabrics was \$16,316,392, and of the cotton warps \$10,423,206. In 1890 the production of

worsted dress goods was 73,907,259 square yards, valued at \$16,328,836, divided as follows: All wool, 11,349,319 square yards, \$3,905,398; cotton warp, 62,557,940 square yards, \$12,423,438. The increase in production of the worsted goods in the decade has therefore been 40 per cent in quantity and 63.8 per cent in value.

*Woolen Dress Goods.*—The quantity of fabrics tabulated as all-wool dress goods is 33,597,692 square yards, valued at \$12,978,546. Of cotton warp, wool-weft dress goods the manufacture amounted to 7,496,898 square yards; to this should be added the sackings, tricots, and opera flannels named above, which make the production of cotton-warp dress goods for women's wear 18,673,650 square yards, valued at \$5,560,072, and the total production of woolen dress fabrics 52,271,342 square yards, with a value of \$18,538,618. The production of all-wool dress goods in 1890 was 25,237,390 square yards, valued at \$9,014,477; of cotton warps, 17,655,803 square yards, \$4,274,012; and of union or cotton mixed sackings, etc., 9,892,377 square yards, \$2,532,598; making the total production of woolen goods for women's wear in 1890, 52,785,570 square yards, valued at \$15,821,087.

In these fabrics, therefore, the quantity produced varies but little, being 514,228 square yards less than ten years earlier, but the value has increased \$2,717,531, or 17.2 per cent.

The total production of dress fabrics in 1890 amounted to 127,259,709 square yards, and in 1900 to 155,767,439 square yards, the value being \$32,285,906 in 1890, and \$45,278,216 in 1900.

The gain in production was therefore 22.4 per cent in quantity and 40.2 per cent in value. The greater percentage of increase in value over the increase in quantity indicates the production of a higher grade of goods. The manufacturers of the United States are competing successfully with those of England and France in meeting the demands of the American market for these fabrics. The various changes in the tariff during the decade, and the resulting different methods of reporting the quantities of importations of dress goods, make it impossible to present a satisfactory table showing these imports, for during the existence of the tariff of 1894 all dress goods were reported in pounds, and a reduction to the square yard is made on a purely arbitrary basis. In the following table the standard used in the census of 1890—4.5 ounces to the square yard—is adopted for all such goods imported by weight under the tariffs of 1890 and 1897. Under the law of 1894 the light-weight dress goods, as well as the heavier goods, were assessed for duty on the pound basis. The standard of 4.5 ounces is therefore not suitable for these importations. A standard of 4 ounces to the square yard will not be greatly out of the way for an estimate of the quantity of dress fabrics imported under that law. The table thus prepared shows the foreign values, and the estimated quantities of dress goods imported in the last two decades.

## IMPORTS OF DRESS GOODS ENTERED FOR CONSUMPTION, 1881 TO 1900, INCLUSIVE.

YEARS.	Square yards.	Value.
1881.....	61,990,172	\$15,961,066
1882.....	93,772,856	19,070,817
1883.....	93,920,152	22,619,106
1884.....	68,831,494	15,849,097
1885.....	41,491,520	14,197,987
1886.....	67,346,150	14,971,277
1887.....	76,871,189	17,199,141
1888.....	85,504,490	18,742,493
1889.....	98,261,526	19,793,253
1890.....	107,915,289	22,668,298
Total .....	785,904,888	180,572,530
1891.....	91,874,084	19,559,983
1892.....	76,575,126	16,030,371
1893.....	86,757,855	17,821,574
1894.....	40,656,267	8,647,258
1895.....	67,719,063	14,505,778
1896.....	96,458,868	19,494,208
1897.....	95,120,674	18,187,846
1898.....	28,213,947	5,798,218
1899.....	27,808,376	6,088,950
1900.....	25,905,698	5,895,820
Total .....	687,089,453	132,580,061
Annual average 1881-1890 .....	78,590,483	18,057,258
Annual average 1891-1900 .....	63,708,945	13,258,006

Assuming that the annual average importation for the decade is a fair representation of the imports, and adding the domestic production, the total annual consumption of these goods amounts to 219,476,384 square yards. By a similar calculation it appears that the quantity consumed in 1890 was 205,850,192 square yards, and the increase of 1900 over 1890, 6.6 per cent. The domestic manufacturers were able to supply in 1890, 62 per cent of the requirements of the people of the United States, while in 1900 they supplied over 71 per cent of the fabrics needed. The average value per square yard of all dress goods of domestic production is 29.07 cents, and the foreign value of the imported dress goods for the year last shown averages 22.76 cents per square yard and the duty-paid value 41.47 cents. These facts indicate that at the present time the mills here supply the demands of the American public for the great mass of dress goods, and that the so-called "novelties," goods with fancy effects produced in the weave or coloring, furnish the most of these imports.

## BRAIDS.

Braids, as known to the wool manufacture, are made both from woollen and worsted yarns, but mostly from the latter. They are used for bindings and for trimmings, for which many fancy braids are made. The braid manufacture was established in this country by Darius Goff, at Pawtucket, R. I., in 1861, where the business is still carried on by his successors. During the decade the business has grown from 11 establishments, with a production of \$1,264,622, to 17 establishments, producing \$2,264,661. In 1900 they were located as follows: 9 in New York, 4 in Pennsylvania, 2 in Massachusetts, and 2 in Rhode Island. Of the number of braiders reported, which number has increased from

10,750 to 15,086, New York has 9,628, Pennsylvania 2,258, and Massachusetts and Rhode Island 3,200. New York manufactures nearly one-half of the braids, her product amounting to \$1,092,713. No attempt is made to present the quantity of braids manufactured, because there is no standard width. As they range from one-fourth inch to 3 or more inches wide, a statement by running yards would convey but little meaning.

## PLUSHES AND PILE FABRICS.

The manufacture of plushes and pile fabrics has become a very important part of the worsted industry, and is conducted chiefly in Maine, Rhode Island, Connecticut, and Pennsylvania; but the statistics are not so segregated that a separate statement can be made.

## CLASS III.—CARPETS AND CARPETING.

The carpet manufacture is one of the most important branches of the wool manufacturing industry. It dates back in this country to the last years of the Eighteenth century. The earliest record of it is that W. P. Sprague opened a carpet manufactory in 1791 in Philadelphia. In 1820 carpets woven by hand are reported as being made in Rhode Island, New York, and Maryland; these were probably rag carpets. Alexander Wright, a Scotchman, started a small mill in Medway, Mass., in 1825, with hand looms which he brought from Scotland. This mill passed into the hands of the Lowell Manufacturing Company, then recently organized, and on the completion of their mill at Lowell, Mass., the machinery was moved there. These are the beginnings of a manufacture which, in a little more than a century, has become one of the leading industries of the country. It now finds employment for millions of capital, gives remunerative occupation to thousands of operatives, and produces millions of dollars worth of fabrics which add to the comfort and cater to the tastes of the American people.

It is to the inventive genius and the business ability of Erastus B. Bigelow, of Boston, Mass., more than to any other man, that the carpet industry of the world owes its great prominence. He first, in 1844, adapted the power loom to the weaving of ingrain carpets. A few years later he invented and patented the power loom for weaving Jacquard Brussels and Wilton carpets. To him also are due the inventions for weaving tapestry Brussels and tapestry velvet carpets. Alexander Smith and Haley Skinner, of Yonkers, N. Y., obtained in 1856 a patent for a power loom for weaving Axminster carpets, which, however, was not utilized till 1867. These inventions are the foundation of the modern carpet manufacture. It is only a little more than ten years since the power loom was applied to the manufacture of Smyrna carpets and rugs, and a largely increased output has been the result. Table 17 presents the principal statistics of the carpet manufacture since 1850, when it first appeared in the census records.

TABLE 17.—CARPETS AND RUGS, OTHER THAN RAG: COMPARATIVE SUMMARY, 1850 TO 1890, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.						PER CENT OF INCREASE.				
	1900	1890	1880	1870	1860	1850	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870	1850 to 1860
Number of establishments.....	133	173	195	215	218	116	123.1	11.3	19.8	0.9	88.6
Capital.....	\$44,440,299	\$38,208,842	\$21,468,587	\$12,540,750	\$4,721,768	\$3,852,981	16.3	78.0	71.2	165.6	22.5
Salaries of officials, clerks, etc., number.....	687	885	(3)	(3)	(3)	(3)	78.4				
Salaries.....	\$881,398	\$510,857	(3)	(3)	(3)	(3)	72.5				
Wage-earners, average number.....	28,411	28,736	20,371	12,098	6,681	6,186	11.1	41.1	68.4	81.1	8.0
Total wages.....	\$11,121,888	\$11,122,259	\$6,935,218	\$4,681,718	\$1,545,692	\$1,246,560	(5)	62.7	46.0	202.9	24.0
Men, 16 years and over.....	13,860	13,655	10,104	6,808	3,910	3,881	1.5	35.1	48.4	74.1	0.7
Wages.....	\$6,651,180	\$6,510,457	(3)	(3)	(3)	(3)	2.2				
Women, 16 years and over.....	12,468	13,076	8,570	4,316	2,771	2,305	14.6	52.6	98.6	55.8	20.2
Wages.....	\$4,113,142	\$4,248,249	(3)	(3)	(3)	(3)	18.2				
Children, under 16 years.....	2,088	2,005	1,697	974	(3)	(3)	3.9	18.2	74.2		
Wages.....	\$857,061	\$368,553	(4)	(3)	(3)	(3)	51.3				
Miscellaneous expenses.....	\$2,751,879	\$1,819,441	(4)	(3)	(3)	(3)	14.9				
Cost of materials used.....	\$27,228,719	\$28,644,905	\$18,984,877	\$13,577,993	\$4,417,986	\$3,075,592	0.9	50.9	39.8	207.3	43.6
Value of products.....	\$48,192,351	\$47,770,193	\$31,792,802	\$21,761,573	\$7,857,636	\$5,401,234	11.4	54.9	83.7	177.0	45.5
Number of looms.....	12,511	11,235	7,252	5,426	(4)	(4)					

1 Decrease.

2 Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 83.)

3 Not reported separately.

4 Not reported.

5 Less than one-tenth of 1 per cent.

The table shows not only the growth of the industry, but also the tendency toward combination of capital and centralization of industries; beginning in 1850 with 116 establishments and \$3,852,981 capital, it increased in twenty years to 215 establishments with a capital of \$12,540,750. Since then each census report has shown a decreased number of factories<sup>1</sup> and an increased capital. At this time the number has been reduced to nearly the original number of 1850, but the capital is nearly twelve times the amount employed in that year. The number of wage-earners and the amount paid in wages vary but little in the reports of the census of 1900 from the corresponding statements of the one preceding. The number of sets of cards employed has increased from 392 to 468 and the number of combs from 118 to 134, but the number of spinning spindles employed in the carpet mills shows a decrease of 41,735, which is wholly in worsted spindles. The woolen and cotton spindles each show an increased number. In 1890 there were 151,132 worsted spindles, but in 1900 only 97,191 were reported as in operation. The following tabular statement shows the number of looms, both hand and power, employed on each variety of car-

pets in 1900 and 1890, and also the transfer of manufacturing forces from hand to power looms in the decade, and from one kind of carpet to another. The total number of looms employed in the carpet mills was 12,511, an increase of 1,276 over 1890. Of these looms 1,757 were engaged in the production of woolen or worsted cloth, leaving 10,754 looms for the carpet manufacture, which is 144 less than was shown in 1890. The ingrain carpet manufacture employed 4,693 looms; 1,835 were engaged on tapestry Brussels, velvets, and rugs; 544 on Brussels; 507 on Wiltons; 761 on Axminster and Moquettes; and 80 on Venetian carpets. The 955 hand looms and 1,358 power looms engaged in the rug manufacture were included in the total number of carpet looms.

The number of hand looms was about two-fifths of the number employed in 1890, and the decrease was almost the same numerically as the increase in power looms. The changes from Brussels to tapestry velvet looms, and from body Brussels to Wilton and Axminster, do not necessarily indicate a throwing out of looms of either class and their replacement by others, but simply the change of product of the looms, only slight alterations being necessary to adapt a tapestry Brussels loom for making tapestry velvet, or a body Brussels for making Wiltons.

<sup>1</sup> 1870 showed 2 more establishments than 1860.

## LOOMS IN CARPET MANUFACTORIES, 1890 AND 1900.

YEAR.	Total all looms.	Total all looms on carpets.	CARPET LOOMS.		INGRAINS.				VENETIAN.	
			Hand.	Power.	Hand.	Power.	Broad.		Hand.	Power.
							Hand.	Power.		
1900.....	12,511	10,754	1,048	9,706	92	4,354	1	246		80
1890.....	11,235	10,898	2,598	8,300	631	4,214			157	109

  

YEAR.	TAPESTRY.		Body Brussels, power.	Wilton, power.	Axminster, power.	Moquette, power.	RUG.		LOOMS ON WOOLEN GOODS.		
	Brussels, power.	Velvet, power.					Hand.	Power.	Broad.	Narrow.	Hand.
1900.....	1,094	787	544	507	611	150	955	1,383	814	897	46
1890.....	1,498	58	1,224	62	95	462	1,810	578	194	44	99

*Materials Consumed.*—The cost of materials used, which amounted in 1900 to \$27,228,719, against \$28,644,905 in 1890, shows a small reduction, 4.9 per cent, but this arises from reduced prices and changes in character of materials used, and not from lessened quantity, as shown in the following table:

QUANTITIES OF MATERIALS USED IN THE CARPET MANUFACTURE: 1900 AND 1890.

	1900	1890
Foreign wool used:		
Pounds.....	51,761,523	54,742,234
Cost.....	\$8,077,420	\$9,422,031
Domestic wool used:		
Pounds.....	109,811	2,139,332
Cost.....	\$26,687	\$433,756
Scoured wool, pounds.....	37,560,231	35,726,837
Hair, all kinds, pounds.....	6,139,757	4,647,025
Cotton, pounds.....	1,943,942	1,725,761
Shoddy, etc., pounds.....	744,233	593,512
Waste, noils, etc., pounds.....	2,525,054	892,548
Woolen yarn, pounds.....	32,996,316	18,763,201
Worsted yarn, pounds.....	9,218,267	10,555,799
Mixed yarn, pounds.....	237,970	.....
Cotton yarn, pounds.....	19,823,561	17,920,498
Linen yarn, pounds.....	8,388,211	9,719,242
Jute and other yarns, pounds.....	39,034,827	23,852,517

The total quantity of materials used, including wool "in condition purchased," was 172,973,472 pounds, as compared with 145,556,669 pounds in 1890, an increase of 27,416,803 pounds in all, equal to 18.8 per cent. The quantity of wool in condition purchased was 5,010,232 pounds less than was used in 1890, but this wool

when scoured shows a smaller amount of shrinkage than appeared in 1890, so that the quantity of clean wool used exceeded the quantity used in 1890 by 1,833,394 pounds. In addition to the scoured wool, 1,750,913 pounds of other fibers in the raw state were used in 1900 in excess of the quantity used in 1890, and 12,895,583 pounds more of woolen and worsted yarns and 15,992,312 pounds more of other yarns, manufactured in other mills, were used than were used ten years previously. The total quantity of purchased yarns used in 1900 was 109,699,152 pounds. In 1890, 80,811,257 pounds of yarns were used.

*Production.*—The production has likewise experienced a continuous growth. In 1850 the mills produced goods to the value of \$5,401,234, using materials costing \$3,075,592. Each decade has seen an increase in value of product; at the census of 1900 the production had increased to \$48,192,351, and the cost of materials used to \$27,228,719. It is true that the value of products is but slightly more than the similar amount in 1890, but the production of carpets, measured in running yards, the yard-wide and the three-quarter goods being all counted together, was 760,917 yards in excess of the production of that year. The following statement, in which the figures for 1880 are also included, furnishes the data for a more correct estimate of the actual relative production of the two periods:

QUANTITY AND KIND OF CARPETS PRODUCED, 1880 TO 1900.

DATE OF CENSUS.	Total carpets, running yards.	Ingrain, 2-ply, square yards.	Ingrain, 3-ply, square yards.	Ingrain, art, square yards.	Venetian, running yards.	Body Brussels, running yards.	Tapestry Brussels, running yards.	Tapestry velvet, running yards.
1900.....	75,531,827	36,698,292	3,222,557	2,328,906	.....	3,581,991	11,649,932	5,708,754
1890.....	74,770,910	32,918,659	3,251,368	553,513	.....	9,442,348	20,008,961	2,482,128
1880.....	39,282,634	21,986,434	862,394	.....	1,984,201	4,077,190	9,441,195	60,000

  

DATE OF CENSUS.	Wilton and Wilton velvet, running yards.	Axminster, running yards.	Moquette, running yards.	Smyrna, square yards.	Cottage, square yards.	Dutch, square yards.	Rug, square yards.	All other, square yards.
1900.....	4,782,885	5,074,961	1,627,410	858,189	.....	.....	.....	.....
1890.....	1,030,101	379,341	3,193,136	127,177	.....	.....	71,310	1,312,313
1880.....	157,629	303,366	.....	.....	241,220	12,000	157,005	.....

The comparative production of each of the two great divisions of the manufacture is as follows: The number of yards of ingrain carpets, which includes all the 2 and 3 ply carpets and ingrain art squares, which amounted to 36,723,540 square yards in 1890, in 1900 amounted to 42,249,755 square yards, an increase of 5,526,215 square yards; the number of running yards of all three-quarter carpets, that is, the tapestries, Brussels, Wiltons, etc., which in 1890 was 36,536,065 yards, in 1900 showed a reduction to 32,423,883 yards, a falling off of 4,112,182 running yards. By reducing the three-quarter goods to the square-yard measurement, a uniform standard is reached, by which a comparison of the total yardage of the manufacture can be obtained, except that in 1890 the report of the manufacture of rugs was made in number of individual rugs, while at the census of 1900 the report was made in

square yards. If rugs are reported in square yards hereafter, there will be no difficulty in making comparisons of the total production of these mills by quantity.

The production of three-quarter wide carpet in 1890 was 36,536,065 running yards, equal to 27,402,049 square yards. In 1900 the production of similar carpets was 32,423,883 running yards, equal to 24,317,912 square yards. The total production of carpets, therefore, aside from the quantities of rugs manufactured and Smyrna carpets reported as rugs, was equal to 64,125,589 square yards in 1890 and 66,567,667 square yards in 1900, an increase of 2,442,078 square yards.

In addition to the carpets produced, there were 8,984,194 square yards of rugs made, which makes the total carpets and rugs manufactured, as reported at the Twelfth Census, 75,551,861 square yards. There has



been a very great increase in the production of rugs. In 1890 the value of all rugs, not including the Smyrna carpets, was \$2,628,781; in 1900 it had increased to \$5,948,898, a gain of \$3,320,117. The total value was nearly one-eighth of the total value of the products of the carpet mills, and indicates the greatly increased use of rugs for floor coverings. In 1890 the value of rugs manufactured was less than one-fourteenth part of the total value of the carpet-mill productions.

The following are the statistics of the rug manufacture, the value being given for both 1890 and 1900. In 1890 rugs were reported in number of pieces, but in 1900 the report was made in square yards.

COMPARATIVE STATEMENT OF RUGS MANUFACTURED,  
1900 AND 1890.

	1900	1890
Total:		
Square yards.....	8,984,194	11,565,808
Value.....	\$5,948,898	\$2,628,781
Tapestry:		
Square yards.....	18,750	
Value.....	\$9,000	
Wilton:		
Square yards.....	339,784	140,644
Value.....	\$545,967	\$87,702
Moquette and Axminster:		
Square yards.....	327,598	160,000
Value.....	\$342,262	\$66,000
Ingrain:		
Square yards.....	393,417	16,278
Value.....	\$168,324	\$34,262
Smyrna rugs:		
Square yards.....	2,793,472	11,429,586
Value.....	\$2,491,911	\$2,867,000
Other rugs:		
Square yards.....	5,111,173	128,845
Value.....	\$2,391,434	\$73,817

<sup>1</sup> Quantities in 1890 are all by numbers of pieces instead of square yards.

The change in fashion for floor coverings is well illustrated by the change in the character of the carpets manufactured. In the tapestry Brussels the production has fallen off 8,359,029 yards, but in the tapestry velvets it has increased 3,224,626 yards. The production of body Brussels carpets has been reduced 5,860,357 yards, but the Wiltons, Axminster, and Moquette have increased 6,882,578 yards. In the cut pile carpets there also is a change, the Moquette, which in 1890 was an exceedingly popular carpet, has fallen off 50 per cent in quantity of product while the Axminsters have increased from 379,341 to 5,074,961 yards. The Wiltons also have become popular, and the manufacture has grown from a small beginning in 1880 to 1,030,101 yards in 1890, to 4,782,835 yards in 1900. The favor in which the various velvet or cut pile carpets are held and the fashion for hard-wood floors, for which ingrain carpets and art squares form a suitable covering, accounts to a great extent for the reduction in the quantity of tapestry and body Brussels carpets, as compared with the previous census.

The location of the industry was the same in 1900 as in 1890, principally in the states of Pennsylvania, New York, Massachusetts, and New Jersey, which ranked in amount of capital employed and value of products in the order named. There were important factories in other states, especially in Connecticut; but as these states

have only one or two establishments each, their statistics are not separately stated. Pennsylvania was the chief seat of the industry, centered in Philadelphia and its suburbs, employing about three-eighths of the capital invested and producing nearly one-half of the total value of carpets and rugs manufactured. Out of 4,693 ingrain looms engaged, 3,737 were in this state, which also possessed 537 of the 1,831 tapestry Brussels and tapestry velvet looms in the country, and 1,220, or more than half, of the Smyrna looms. New York had 1,057 of the tapestry looms and Massachusetts 217. Of the 1,812 Brussels, Wilton, and similar looms for the manufacture of the highest grades of carpets, Massachusetts possessed 752, New York 542, and Pennsylvania 267. In the manufacture of Smyrna carpets and rugs New Jersey was next to Pennsylvania, having 794 looms, and was followed by New York with 295 looms. New York and Massachusetts, therefore, were the great producers of the higher grades of carpets, while Pennsylvania and New Jersey were the homes of the more common ingrain carpet and the art squares as well as the Smyrna rug.

The imports of carpets and rugs for the fiscal year 1900 amounted to only 820,731 square yards, having a foreign value of \$2,555,620. Of these importations, 640,111 square yards were rugs of high quality, either Aubusson, Axminster, or rugs of similar character, or the oriental rugs, all articles of luxury, and were valued at \$2,329,106 abroad. The American carpet manufacturers, it is evident, have complete control of the home market, and are able to supply all the needs of the American people.

#### CLASS IV.—FELT GOODS.

The following table presents a summary of the felt-goods industry for the census years 1880, 1890, and 1900, with per cent of increase for each decade:

TABLE 18.—FELT GOODS: COMPARATIVE SUMMARY, 1880 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.			PER CENT OF INCREASE.	
	1900	1890	1880	1890 to 1900	1880 to 1890
Number of establishments.....	36	34	26	5.9	30.8
Capital.....	\$7,125,276	\$4,460,621	\$1,958,254	59.7	127.8
Salaries of officials, clerks, etc., number.....	186	1124	(2)	9.7	.....
Salaries.....	\$231,065	\$157,916	(2)	46.3	.....
Wage-earners, average number.....	2,688	2,142	1,524	25.5	40.6
Total wages.....	\$1,024,855	\$883,880	\$499,760	16.0	100.9
Men, 16 years and over.....	1,957	1,474	1,203	32.8	22.5
Wages.....	\$820,687	\$721,796	(2)	13.7	.....
Women, 16 years and over.....	658	506	233	30.0	117.2
Wages.....	\$191,080	\$184,273	(2)	42.3	.....
Children, under 16 years.....	73	162	88	54.9	84.1
Wages.....	\$18,108	\$27,311	(2)	52.0	.....
Miscellaneous expenses.....	\$356,164	\$232,871	(4)	62.9	.....
Cost of materials used.....	\$3,801,028	\$2,809,937	\$2,530,710	35.3	11.0
Value of products.....	\$5,461,691	\$4,054,768	\$3,619,652	38.8	28.6
Number of spindles.....	24,286	18,829	(4)	75.6	.....
Number of looms.....	284	210	(4)	35.3	.....

<sup>1</sup> Includes proprietors and firm members and their salaries; number only reported in 1900, but not included in this table.

<sup>2</sup> Not reported separately.

<sup>3</sup> Decrease.

<sup>4</sup> Not reported.

In number of establishments its growth in the last decade has been small, but in other respects its development has been large. The capital increased 59.7 per cent, the cost of materials used 35.3 per cent, and the value of products 38.8 per cent. The principal products were felt cloths, boot and shoe linings, upholstery felts, trimmings and lining felts, felt skirts, and endless belts for paper-making machines. Many of the productions of the felt manufacture can not be measured in yards, but can be reported only in pieces or pounds. One-third in value of the products of these mills in 1900 was of this class, comprising slippers and shoes, polishing felts and wheels, piano keys, and an endless variety of other goods. The quantity of felt cloths manufactured in 1900 was about the same as in 1890, but in boot and shoe linings the quantity was only 1,052,538 square yards, about half of the product of 1890. Endless belts for printing machines increased from 216,982 to 1,114,357 square yards, while trimmings and lining felts increased from 1,176,114 square yards in 1890 to 2,469,830 in 1900.

## CLASS V.—WOOL HATS.

The wool-hat manufacture is properly a part of the felt industry, the hats being made by a process of felting, and are thus distinguished from the ordinary products of the loom. The process of wool-hat making is very simple and yet very ingenious. The wool, as it comes from the card in a continuous lap, is wound upon a machine consisting of two cones placed base to base and revolving upon an axis placed parallel to the end of the card. The double cone is so rotated that the continuous lap of wool is wound in a zigzag manner, crossing and recrossing from end to end. When a sufficient quantity of wool has been received, the machine is stopped, the double cone of wool is divided in the center, the two resulting hat bodies removed for felting, and the process repeated. From the time the hat leaves the cone until it is ready for the market each hat is the subject of individual treatment, and it is only by the subdivision of the various processes of felting, dyeing, stiffening, blocking, finishing, and trimming, and the distribution of the work among many hands, that it is possible for the comparatively few hat factories to supply the demand. As is stated elsewhere in this report, the fur-hat manufacture has interfered very seriously with the manufacture of wool hats.

The following table shows the statistics of the wool-

hat manufacture at the censuses of 1880, 1890, and 1900, with per cent of increase for each decade:

TABLE 19.—WOOL HATS: COMPARATIVE SUMMARY, 1880 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.			PER CENT OF INCREASE.	
	1900	1890	1880	1890 to 1900	1880 to 1890
Number of establishments ..	24	32	43	125.0	125.6
Capital .....	\$2,050,802	\$4,142,224	\$3,615,830	150.5	14.6
Salaries of officials, clerks, etc., number .....	57	92	(3)	138.0	.....
Salaries .....	\$66,766	\$113,968	(3)	141.4	.....
Wage-earners, average number .....	2,108	3,500	5,470	139.8	136.0
Total wages .....	\$937,855	\$1,249,976	\$1,893,215	125.0	131.0
Men, 16 years and over ..	1,358	2,220	3,222	138.8	131.1
Wages .....	\$727,253	\$980,030	(3)	125.8	.....
Women, 16 years and over ..	651	1,121	1,459	141.9	123.2
Wages .....	\$195,395	\$251,661	(3)	122.1	.....
Children, under 16 years ..	99	159	789	137.7	179.8
Wages .....	\$14,607	\$18,285	(3)	120.1	.....
Miscellaneous expenses ..	\$185,644	\$249,568	(4)	125.6	.....
Cost of materials used .....	\$2,042,202	\$2,802,041	\$4,785,774	127.1	141.4
Value of products .....	\$3,591,940	\$5,329,921	\$8,516,599	132.6	137.4

<sup>1</sup> Decrease.

<sup>2</sup> Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table.

<sup>3</sup> Not reported separately.

<sup>4</sup> Not reported.

Making no reference to the condition of the industry in 1880, it will be seen that since 1890 the number of establishments has fallen off 25 per cent, the capital 50.5 per cent, the cost of materials used 27.1 per cent, and the value of products 32.6 per cent. In all the various items of expense there has been a similar reduction. There has not, however, been so large a decrease in the wool-hat industry as the items named would seem to indicate. In 1890, 972,375 dozen wool hats were manufactured, valued at \$4,611,851; in 1900 the number of dozens is 811,425, valued at \$3,161,361, so that a very considerable part of the loss is attributable to reduced value per unit of quantity.

The wool-hat manufacture is so closely allied to the manufacture of fur hats that it was thought best to secure the returns of the latter industry in connection with those of the wool manufacture. The reports, however, are tabulated separately, and are not included in any of the tables pertaining to that industry. The detailed statistics for the fur-hat manufacture will be found in Table 40, which follows the general tables belonging to the other industry. A brief history, with a general statement of the process of manufacture and the progress of the industry, is presented in connection with the report on wool hats.

## THE FUR HAT MANUFACTURE.

Until the census of 1900 no attempt was made to obtain a separate statement of the statistics for the fur-hat manufacture. They had been included with those of hats and caps, not including wool hats. In 1890 the value of all hats and caps reported, except wool hats, was \$37,311,599, the production of which gave employ-

ment to 25,931 wage-earners, receiving \$12,650,917 in wages. Capital amounting to \$13,724,002 was invested in the business, and the material consumed was valued at \$16,160,802. The capital employed in the manufacture of all these classes of head coverings was \$3,000,000 less in 1890 than was invested in the fur-hat

manufacture alone in 1900. The cost of materials used in 1900 was within \$3,000,000 of the cost shown for the hat and cap industry in 1890, and the value of products was not quite \$10,000,000 less than the total for hats and caps, except wool hats, for 1890. The following is a summary of the statistics of the fur-hat industry for 1900:

TABLE 20.—FUR HATS: SUMMARY FOR 1900.

Number of establishments .....	171
Capital .....	\$16,701,808
Salaried officials, clerks, etc., number .....	726
Salaries .....	\$943,998
Wage-earners, average number .....	18,880
Total wages .....	\$9,119,264
Men, 16 years and over .....	13,187
Wages .....	\$7,231,777
Women, 16 years and over .....	5,436
Wages .....	\$1,840,454
Children, under 16 years .....	257
Wages .....	\$47,033
Miscellaneous expenses .....	\$1,416,737
Cost of materials used .....	\$13,513,668
Value of products .....	\$27,811,187

The total number of establishments engaged in the industry was 171, located 59 in New Jersey, 58 in Connecticut, 20 in Pennsylvania, 15 in New York, 11 in Massachusetts, and 8 in other states. The capital employed was distributed in the various states as follows: Pennsylvania, \$5,726,259; Connecticut, \$3,197,551; New York, \$3,050,381; New Jersey, \$2,932,311; Massachusetts, \$1,467,700; all others, \$327,106. In number of wage-earners the order was: Connecticut, New Jersey, New York, Pennsylvania, Massachusetts. In amount of wages New Jersey led, and Connecticut, New York, Pennsylvania, and Massachusetts followed in the order named. New Jersey reported the manufacture of 590,939 dozen fur hats, valued at \$6,773,402; Connecticut, 497,688 dozens, valued at \$6,543,736; New York, 226,061 dozens, valued at \$5,052,570; Pennsylvania, 280,880 dozens, valued at \$4,203,169; Massachusetts, 227,032 dozens, valued at \$2,244,941; and all other states, 59,777 dozens, valued at \$567,688. The total number of dozens made was 1,882,372, and the value \$25,385,506. The average value per dozen was within a fraction of \$13.50, but, as the preceding statements show, there is a wide range in value. The New York manufacture shows the highest average value, \$22.35, and Massachusetts the lowest, \$9.88.

The material from which fur hats are made is the fur of the rabbit, coney, and nutria, and is mostly imported, sometimes on the skin, but more often cut. There are some large fur-cutting establishments in the United States, and some of the most important fur-hat factories cut their own fur. The finest fur comes from Germany, where it is cut from skins brought thither from various places. After the skins have been properly opened and stretched, and the

hairs removed by pulling, they are subjected to a process called "carroting," an application of mercury and nitric acid, which causes the fur fibers to hold together. The separation of the fur from the skin is accomplished by cutting the skin into shreds, by means of rapidly revolving shear blades, fixed just below a table, but so adjusted that as the skin passes under a roller or guide fixed above the shear blade, the skin is cut into shreds and drops beneath the machine. The fur, without the apparent displacement of a fiber, passes on to the other side of the roller, whence it is removed and packed away until required.

Until 1846 the making of fur hats was carried on entirely by hand. In 1835 a machine for stiffening hat bodies by immersing them in solutions of different strength and afterwards pressing them between rollers was patented by Henry Blynn, of Newark, N. J. In 1837 Thomas Blanchard patented a process of forming bats for fur hats by means of a rapidly rotating picker brush, which disintegrated the materials and threw them upon an endless apron or band of fine wire cloth by means of a current of air, produced by an exhausting fan beneath the apron. The thin, narrow ribbon or web thus formed was wound upon a double cone of a size to form two hat bodies. The machine was not successful in practice.

The first process in manufacturing hats is the mixing of various kinds or qualities of fur to produce the quality of hat wanted, which is done by a machine called a "devil," in which the fibers are pulled apart and thoroughly mingled. It is then taken to the blowing machine, where it is kept constantly agitated in a light current of air. The matted pieces, if any, and such pieces of skin as there may be with fur attached, together with the hair and dirt thrown out from the fine fur, drop through a set of sieves which separate the valuable pieces of fur for further treatment. The blowing process continues until the fur is perfectly free from all extraneous matter, when it leaves the machine in a lap, fine and soft, but so light and filmy that it hardly bears the touch.

The hat-forming process comes next in order. The fur as it comes from the blower is weighed out into boxes, each containing a sufficient quantity for one hat, according to the weight and quality of hat to be made, the usual range being from two to six ounces per hat. These boxes of fur are conveyed to a machine, called a "former," which consists of a revolving cone, made of brass or copper of suitable size for the hat body. This cone is pierced with innumerable small holes, through which a current of air is drawn by means of an exhausting fan.

There is also an arrangement by which minute jets of hot water are thrown upon the newly formed hat body to give it a sufficient consistency to permit its removal from the cone.



The process is as follows: The fur is fed through a tube to a revolving cylinder which thoroughly opens and distributes the fur; at the same time the former is set in motion and the current of air produced by the fan draws the fur into the machine and spreads it evenly over the surface of the cone, which during the operation is inclosed in a tight box. When the fur is properly distributed the box is opened and the jets of water are thrown upon the fur, and the embryo hat, upon which a cloth has been spread for its protection, is removed by hand. The whole operation takes but two or three minutes. It is then rolled and pressed, first by hand, when in its more delicate condition, and afterwards by machinery, to felt it and reduce it to its proper proportions. In the meantime it has been sized to add to its strength and durability. The hat now receives an application of shellac dissolved in alcohol to stiffen it. A much stronger solution is required for a "derby" than for a soft hat. Thus far the hat has retained its conical form. The next process gives it a shape in which it is recognizable as a hat. It consists of pressing it in a mold, composed of a block and a matrix, which shapes both the crown and the brim. The next step is that of dyeing, in which the rough hat receives its final color. Blocking comes next, which fixes the hat in the form desired, the previous pressing having only shaped it. Pouncing, which is a process of sand-papering to remove inequalities, follows, and is accomplished by placing the hat on a rapidly revolving block, a device of Mr. John T. Waring, in 1853, and rubbing the surface with fine emery paper; at the same time any hairs that may have been left in the fur are removed or cut off and a slight nap is raised, which is ironed so that it all lies in one direction. The trimmings—that is, the sweat band, the lining and the ribbon and binding—are now attached, and the hat is again blocked and the rim given its shape. Formerly all of this work was done by hand, beginning with the process of "blowing," by which the same result was obtained that is now reached by the blower. The inventions of Thomas Blanchard, H. A. Wells, and John T. Waring, with minor modifications and improvements, are the foundation of the machine manufacture of fur hats.

The history of the fur hat manufacture has never been adequately presented. Special effort has been made at this time to prepare such a statement as the importance of the subject demands, but the only sources of information which have been found are Bishop's "History of American Manufactures," and the "Report on Manufactures for the Eighth Census." The industry in the United States dates back to the very early days of the colonies. In 1662 the assembly of Virginia enacted a number of laws for the encouragement of manufactures. Among other premiums offered was one of 10 pounds of tobacco for every good wool or fur hat made within the colony. In 1675 laws were passed prohibiting the exportation of raccoon furs from

the provinces. In 1731 Jeremiah Dunbar, surveyor-general of His Majesty's woods, reported respecting the manufacture of hats; that it was with the greatest difficulty they were able to procure true information of the trade and manufactures of New England. The company of felt makers in London petitioned Parliament in 1731 to prohibit the importation of hats from the American colonies. A special committee, to which the petition was referred, reported that in New York and New England beaver hats were manufactured to the estimated number of 10,000 yearly. There were 16 hatters in Boston, one of whom furnished 40 hats weekly.

The British Board of Trade, in their report in 1732, made in pursuance of an inquiry "with respect to laws made, manufactures set up, or trade carried on detrimental to the trade, navigation, or manufactures of Great Britain," found that "great quantities of hats are made in New England," and that "great quantities of these hats are exported to Spain, Portugal, and our West India Islands." In consequence of this evidence, an act was passed that "no hats or felts, dyed or undyed, finished or unfinished, should be put on board any vessel for any place within any of the British plantations, nor be laden upon any horse, or other carriage, to the intent to be exported from thence to any other plantation, or to any other place whatever." By the same law no person was allowed to make hats unless he had served an apprenticeship of seven years, and no negro was permitted to work at the business. In 1753, a prize of 40 shillings was offered in Delaware for the neatest and best hat manufactured in the lower counties. In 1767 there was a very considerable hat manufacture in Carolina, and a profitable export trade was carried on with the Spanish Islands. In Danbury, Conn., Zadoc Benedict began hat making in 1780 with one journeyman and two apprentices. He made three hats a day. In 1786 the hat manufacture had become an extensive industry in Pennsylvania, where it was estimated that upward of 160,000 wool hats and over 54,000 fur hats were made annually. There were 68 hatters in Philadelphia and vicinity who made 31,627 fur hats and 7,000 wool hats yearly. There were in addition 247 hatters in other parts of the state. In 1791, 10,000 fur and wool hats were made yearly by 17 hatters in New London county, Conn. In 1810 the whole number of fur hats reported from 13 states and territories was 457,666; of these 45,369 were made in Pennsylvania. Massachusetts produced 142,645 fur hats, valued at \$415,167. Maryland reported a production in 106 hat establishments, chiefly fur, to the value of \$304,472, and New Jersey made, chiefly at Newark and vicinity, 31,524 fur hats, valued at \$94,052.

The Secretary of the Treasury reported to Congress in April, 1810, that hats were annually imported to the value of \$350,000, and American made hats to the value of \$100,000 were exported. In 1831 a convention of

manufacturers estimated the production at \$15,000,000 annually, giving employment to 15,000 men and boys and 3,000 women. The census of 1840 shows the value of hats and caps manufactured in the United States to have been \$8,704,342. Both of these last statements include hats and caps of all kinds.

At the census of 1850, 1,048 establishments were reported, with a capital of \$4,427,798, engaged in the

manufacture of hats and caps. In 1860 there were only 622 establishments, with a capital of \$4,126,572. They consumed, with other materials, 3,039,700 pounds of wool and 1,658,520 pounds of fur, and manufactured, among other things, 2,449,672 fur hats, 2,462,974 felt or soft hats, and 6,191,482 wool hats. In the three following census reports the number of hats produced in the hat and cap factories was not given.

### WOOL SCOURING AND WOOL PULLING.

The tendency of manufacturing industries to locate near the sources of supply, which led to the building up of the little mills of a century ago in the heart of the wool-growing districts, together with the tendency to the specialization and subdivision of industries, is nowhere more noticeable in the wool manufacture than in the establishment of wool-scouring establishments. In 1890 they were so few in number that the textile directories did not report them, nor did the census reports on the wool manufacture of that year take cognizance of them. At the present time 25 wool-scouring establishments, employing a capital of \$1,061,123, are in operation. Their location is determined by proximity to either the producer or the consumer. Wool as it comes from the sheep is in an exceedingly dirty condition and full of grease or suint. The processes of cleansing preparatory to working consist of opening, burring, washing, scouring and dusting, and in these operations the wool, according to its condition, loses from 20 to 85 per cent in weight. The average loss in weight in domestic wools resulting from cleansing is about 60 per cent. The cost of freight on this extraneous matter is an important consideration to the manufacturers, as on the above basis of shrinkage it adds one and one-half times to the cost of transportation. The advantage, therefore, of scouring plants at a shipping center in a wool-growing district is apparent. Six such establishments are now located in New Mexico, Colorado, and Missouri.

On the other hand a vast amount of wool must always come to market in its original condition, and as all transactions in wool are based upon the scoured pound, it is of advantage to the manufacturer and dealer to have scouring plants at hand where sample bags may be sent to be tested by an independent authority, who can, when required, handle large quantities expeditiously, and at the same time cleanse the wool more uniformly than might be done by a mill on its own premises. In Massachusetts, Connecticut, and New Jersey 9 scouring plants have been established.

There are 10 other plants, located 6 in California, 2 in Illinois, 1 in Oregon, and 1 in Pennsylvania. The California and Oregon plants might perhaps be classed with the first group, but in both of these states there is a well-established and growing manufacturing industry to which these plants may well be useful. The 2 in Illinois

might perhaps be assigned to the second group, as Illinois has an important manufacturing interest. It has also a large wool-growing interest, and has, like California and Oregon, been placed in the third group, where both growth and manufacture of wool are influential.

The report of the scouring mills, Table 21, shows that they operated upon 70,878,519 pounds of wool. The establishments which report their business for both the census year and the one preceding show a satisfactory growth of 9.8 per cent in value of products, which in this case represents the amount received for work done.

TABLE 21.—WOOL SCOURING: SUMMARY FOR 1900.

Number of establishments .....	25
Capital .....	\$1,061,123
Salaried officials, clerks, etc., number .....	45
Salaries .....	\$72,011
Wage-earners, average number .....	720
Total wages .....	\$338,006
Men, 16 years and over .....	646
Wages .....	\$316,924
Women, 16 years and over .....	74
Wages .....	\$21,682
Miscellaneous expenses .....	\$102,039
Cost of materials used .....	\$193,826
Amount received for work done .....	\$889,809
Number of pounds of wool scoured .....	70,878,519

The industry of wool pulling is closely connected with wool production and also with the wool manufacture. An attempt was made at the census of 1900 in connection with the wool manufacturing inquiry to obtain these statistics.

The result, however, has not been satisfactory, but the figures received are given in Table 22, not as a complete statement, but as a foundation for future comparison.

TABLE 22.—WOOL PULLING: SUMMARY FOR 1900.

Number of establishments .....	34
Capital .....	\$944,715
Salaried officials, clerks, etc., number .....	35
Salaries .....	\$35,422
Wage-earners, average number .....	475
Total wages .....	\$247,950
Men, 16 years and over .....	475
Wages .....	\$247,950
Miscellaneous expenses .....	\$47,395
Cost of materials used .....	\$53,975
Amount received for work done .....	\$531,287
Number of pounds of wool pulled .....	6,111,298

The total quantity of pulled wool reported was 6,111,298 pounds produced in 34 establishments, to which should be added 13,182,146 pounds, reported in connection with several slaughterhouses. This makes a product of 19,293,444, but it is evidently much less than the actual product. The value reported is the amount received for, or the cost of pulling, rather than the value of the wool pulled. The accepted commer-

cial estimate of the pulled-wool production of the year 1900 was 28,663,806 pounds<sup>1</sup> as pulled, equal to 17,198,283 pounds of clean wool. The chief statistician for agriculture estimates the production of pulled wool in the census year at 33,000,000 pounds on the skin.

<sup>1</sup> Bulletin of the National Association of Wool Manufacturers, Vol. XXX, page 350.

### SHODDY MANUFACTURE.

Shoddy is the fiber recovered from woolen, worsted, or mixed rags known under the generic name of "shoddy," and is subdivided into shoddy, mungo, flocks, and wool extract. The first two of these are recovered by powerful machines known as "pickers" and "garnets." The picker tears or picks the rags to pieces and gradually reduces the material to its original fiber, while the garnet opens and prepares it for carding. Flocks are produced generally from bits or pieces of all-wool rags which are cut very short into a sort of powder by passing between the blades of a machine called a flock cutter. They are also resultants of the gigging and shearing processes of the cloth manufacture. Flocks are used mostly to add weight and substance to woolen cloths, on the surface of which they are spread during the process of fulling, which incorporates them into the fiber by felting. They are also used to produce a woolly face on waterproof garments and for saddlery, etc.

Wool extract is produced from rags of mixed fiber by a process of carbonization which destroys all vege-

table material and leaves only the wool, which is then reduced to fiber by mechanical operations. Besides the shoddy made by the shoddy mills, a large amount is made in woolen mills from rags and clippings for use in the same establishments.

Shoddy is used principally in the wool manufacture in the production of low-grade satinet and other heavy cotton-warp goods; the poorer qualities are used in backings for overcoatings and cloakings and to give weight and substance to various kinds of woolen goods. It is also used to some extent in the production of merino yarns for the hosiery manufacture. The duty on foreign rags and other shoddy materials has generally been placed so high as to practically prevent their importation, and the American manufacturer of shoddy is confined to the home supply.

The following table contains a comparative statement of the principal statistics of the shoddy manufacture, by decades, since 1860:

TABLE 23.—SHODDY: COMPARATIVE SUMMARY, 1860 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.					PER CENT OF INCREASE.			
	1900	1890	1880	1870	1860	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870
Number of establishments.....	105	94	78	56	30	11.7	28.8	30.4	86.7
Capital.....	\$5,272,929	\$3,754,063	\$1,165,100	\$815,950	\$123,500	40.5	222.2	42.8	500.7
Salaries officials, clerks, etc., number.....	139	144	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	23.5			
Salaries.....	\$166,704	\$149,488	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	11.5			
Wage-earners, average number.....	1,926	2,155	1,282	632	290	210.6	68.1	102.8	117.9
Total wages.....	\$748,948	\$707,099	\$400,326	\$198,372	\$54,124	5.9	76.6	101.8	266.5
Men, 16 years and over.....	1,425	1,252	695	419	141	13.8	80.1	65.9	197.2
Wages.....	\$620,444	\$584,250	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	16.1			
Women, 16 years and over.....	480	865	496	171	149	244.5	74.4	190.1	14.8
Wages.....	\$124,004	\$168,549	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	226.4			
Children, under 16 years.....	21	38	91	42	( <sup>3</sup> )	244.7	268.2	116.7	
Wages.....	\$4,500	\$4,300	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	4.7			
Miscellaneous expenses.....	\$208,149	\$238,094	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	28.1			
Cost of materials used.....	\$4,875,192	\$6,008,035	\$3,366,650	\$1,098,603	\$227,925	218.8	78.3	206.4	382.0
Value of products.....	\$6,730,974	\$7,887,000	\$4,989,615	\$1,768,592	\$402,590	214.7	58.1	182.1	339.3

<sup>1</sup> Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 39.)

<sup>2</sup> Decrease.

<sup>3</sup> Not reported separately.

<sup>4</sup> Not reported.

It appears that the number of mills has increased 11.7 per cent during the decade, the capital 40.5 per cent, and miscellaneous expenses 23.1 per cent. The value of products has decreased 14.7 per cent, and the cost of materials used, 18.8 per cent. The number of wage-earners decreased 10.6 per cent, but the amount paid in wages increased 5.9 per cent. There was an increase in the number of men employed, and a larger

relative increase in their earnings. The numbers of women and children employed have been reduced in about equal ratio, 44.5 and 44.7 per cent. The industry was carried on in 105 establishments, employing \$5,272,929 capital and producing goods to the value of \$6,730,974.

While the industry was carried on in 19 states, it was located principally as shown in the following state-

ment, the states being arranged in order of value of products:

	Num-ber.	Capital.	Value of products.
United States .....	77	\$3,862,174	\$4,969,163
Ohio .....	6	1,397,746	1,478,712
Pennsylvania .....	26	972,070	1,448,886
Massachusetts .....	29	769,294	988,189
Connecticut .....	7	491,074	537,733
Rhode Island .....	9	228,930	515,643

These 5 states embraced 73.3 per cent of the number of establishments, employed 73.2 per cent of the capital; and produced 73.8 per cent of the total value of products. Of these states, Ohio reports the greatest value

of products and of capital, and the smallest number of establishments. This is accounted for by the fact that the largest shoddy manufactory in the United States was located there. The products of Pennsylvania were nearly equal to those of Ohio, but the capital was only two-thirds as great and the number of establishments more than four times the number reported in Ohio. Massachusetts had 3 more establishments than Pennsylvania, with products of less than two-thirds the value. Connecticut and Rhode Island together were not quite equal in capital employed to Massachusetts, which they slightly exceeded in value of products.

Table 24 is a comparative summary for the shoddy manufacture, by states, 1880, 1890 and 1900.

TABLE 24.—SHODDY: COMPARATIVE SUMMARY BY STATES, 1880 TO 1900.

STATES.	Year.	Number of establishments.	Capital.	SALARIED OFFICIALS, CLERKS, ETC.		AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES.								Miscellaneous expenses.	Cost of materials used.	Value of products.
						Total.		Men, 16 years and over.		Women, 16 years and over.		Children, under 16 years.				
				Number.	Salaries.	Average number.	Wages.	Average number.	Wages.	Average number.	Wages.	Average number.	Wages.			
United States	1900	105	\$5,272,929	139	\$166,704	1,926	\$748,948	1,425	\$620,444	480	\$124,004	21	\$4,500	\$293,149	\$4,875,192	\$6,730,974
	1890	94	3,754,063	114	114,483	2,155	707,099	1,252	534,250	865	168,549	38	4,300	238,094	6,003,035	7,887,000
	1880	78	1,165,100	(2)	(2)	1,282	400,326	695	(2)	496	(2)	91	(2)	(8)	3,366,650	4,939,615
California	1900	3	10,225			8	3,940	8	3,940					586	9,156	17,678
	1890															
	1880															
Connecticut	1900	7	494,074	8	8,191	118	44,163	101	40,461	7	1,402	10	2,300	33,601	362,438	537,733
	1890	7	895,336	14	13,271	166	72,545	142	66,185	16	4,600	8	1,760	26,039	442,852	648,060
	1880	8	86,000			139	85,345	93		38		8		261,200	347,500	
Illinois	1900	3	110,037	4	6,500	110	29,754	37	19,228	73	10,526			11,610	103,722	182,110
	1890	2	22,000			81	12,300	16		12		3			74,500	100,000
	1880															
Massachusetts	1900	29	769,294	30	84,336	307	127,715	260	114,492	44	12,794	8	429	50,627	685,123	988,189
	1890	29	902,850	29	28,135	406	152,613	300	121,984	106	30,629			62,637	1,170,863	1,614,469
	1880	30	460,500			471	173,439	334		105		32			1,308,715	2,305,985
New Hampshire	1900	3	23,000	1	1,033	24	10,650	24	10,650					1,795	86,816	111,848
	1890	3	17,300			23	5,700	13		8		2			33,900	49,600
	1880															
New Jersey	1900	4	538,936	15	30,100	156	56,027	128	49,445	28	6,582			25,798	526,492	685,048
	1890	4	193,225	10	8,150	117	35,605	64	26,430	49	8,225	4	900	20,150	301,113	389,040
	1880	1	85,000			30	25,000	10		5		15			80,734	137,500
Ohio	1900	6	1,397,746	35	55,225	474	164,579	229	102,736	245	61,843			69,259	1,077,529	1,478,712
	1890	3	744,530	12	20,100	684	162,600	179	80,260	435	81,840	20	1,000	23,266	1,100,480	1,377,500
	1880	1	250,000			246	40,000	30		216					575,000	700,000
Pennsylvania	1900	26	972,070	34	24,746	368	148,240	285	126,604	80	21,064	3	572	57,728	1,069,944	1,448,886
	1890	18	640,382	37	34,716	302	116,459	211	92,183	91	24,276			60,305	1,205,258	1,633,770
	1880	11	186,000			143	47,441	90		40		13			510,977	655,895
Rhode Island	1900	9	228,930	3	3,400	131	56,397	127	55,096	4	1,301			23,828	390,126	515,643
	1890	10	194,250	14	16,498	132	51,516	129	50,580	3	936			22,278	1,165,235	1,350,792
	1880	6	49,600			83	18,590	61		26		6			137,054	195,045
Vermont	1900	3	245,982	1	1,000	93	45,345	67	33,142	26	7,203			7,609	268,712	332,352
	1890															
	1880	2	15,000			15	3,896	6		9					37,000	56,000
New York	1900	9	329,861	7	6,130	167	65,739	137	58,695	28	6,731	2	263	13,122	316,738	443,529
	1890	12	482,520	19	17,300	173	60,061	140	54,654	27	4,737	6	640	11,640	343,012	471,478
	1880	7	32,700			78	33,610	43		32		3			321,220	407,590
All other states	1900	9	285,811	6	3,576	104	36,803	38	30,833	18	5,034	3	936	6,591	165,889	232,704
	1890	5	67,933	4	3,780	41	15,296	26	12,046	15	3,250			3,264	83,679	107,343
	1880	2	11,000			23	5,005	9		5		9			21,350	34,500

<sup>1</sup> Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 39.)

<sup>2</sup> Not reported separately.

<sup>3</sup> Not reported.

<sup>4</sup> Included in "all other states."

<sup>5</sup> No establishments reported.

<sup>6</sup> Includes establishments distributed as follows: 1900—Georgia, 1; Illinois, 2; Indiana, 1; Maine, 2; New Hampshire, 2; Wisconsin, 1. 1890—California, 1; Maine, 2; Vermont, 1; Wisconsin, 1. 1880—Maine, 1; Maryland, 1.

The production of the shoddy mills in 1900 includes the wool extract, noils, and various wastes with the quantity of shoddy, and together amount to 48,018,427 pounds, valued at \$6,329,626. In 1890 the similar products of the shoddy mills aggregated 45,055,452 pounds, with a value of \$7,333,465. The quantity in

1900 had increased 6.6 per cent, but the value showed a decrease of 13.7 per cent. The decrease in the industry, therefore, is apparent rather than real, being not in the quantity produced, but in its value, owing to reduced prices.

### HOSIERY AND KNIT GOODS.

In preceding census reports the statistics of the manufacture of hosiery and knit goods were included with those of the wool manufacture. At the census of 1890 these statistics were also made the subject of a separate tabulation, because it was found that while in its early history wool was almost the only material used, in later years other fibers were becoming continually more prominent in the manufacture, and that the time was

at hand when the predominance of these would cause it to be more closely allied to some other branch of the textile industry. The statistics for 1900 are presented separately in the general tables.

The progress of the industry is shown in the following comparative summary of its principal statistics for each census, beginning with that of 1850:

TABLE 25.—HOSIERY AND KNIT GOODS: COMPARATIVE SUMMARY, 1850 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.						PER CENT OF INCREASE.				
	1900	1890	1880	1870	1860	1850	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870	1850 to 1860
Number of establishments.....	921	796	859	248	197	85	15.7	121.7	44.8	25.9	181.8
Capital.....	\$81,860,604	\$50,607,738	\$15,579,591	\$10,931,260	\$4,035,510	\$544,735	61.8	224.8	42.5	170.9	640.8
Salaries of officials, clerks, etc., number.....	2,809	11,621	(2)	(2)	(2)	(2)	78.8	85.4	.....	.....	.....
Salaries.....	\$3,124,798	\$1,685,158	(2)	(2)	(2)	(2)	39.9	106.8	95.8	62.5	291.5
Wage-earners, average number.....	83,387	59,588	28,885	14,788	9,103	2,325	46.9	147.4	51.3	166.5	361.2
Total wages.....	\$24,358,627	\$16,578,119	\$6,701,475	\$4,429,085	\$1,661,972	\$360,336	42.5	97.5	76.8	52.9	282.9
Men, 16 years and over.....	21,154	14,846	7,517	4,252	2,780	895	47.2	130.6	121.6	26.4	324.4
Wages.....	\$8,890,728	\$6,041,200	(2)	(2)	(2)	(2)	42.4	.....	.....	.....	.....
Women, 16 years and over.....	53,565	40,826	17,707	7,991	6,323	1,490	121.3	7.0	48.9	.....	.....
Wages.....	\$14,248,808	\$10,006,070	(2)	(2)	(2)	(2)	180.6	.....	.....	.....	.....
Children, under 16 years.....	8,668	3,916	3,661	2,545	(2)	(2)	82.0	.....	.....	.....	.....
Wages.....	\$1,224,091	\$530,849	(2)	(2)	(2)	(2)	42.4	185.8	54.6	207.1	671.4
Miscellaneous expenses.....	\$6,599,865	\$3,627,245	(2)	(2)	(2)	(2)	42.0	180.5	58.4	162.0	608.2
Cost of materials used.....	\$51,071,859	\$35,861,685	\$15,210,951	\$9,835,823	\$3,202,317	\$415,113	.....	.....	.....	.....	.....
Value of products.....	\$95,482,566	\$67,241,018	\$29,167,227	\$18,411,564	\$7,280,606	\$1,028,102	.....	.....	.....	.....	.....

<sup>1</sup> Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. [See Table 41.]

<sup>2</sup> Not reported separately.

<sup>3</sup> Not reported.

In 1850 there were only 85 establishments reported. They had a capital of \$554,735, and produced goods to the value of \$1,028,102. They employed 2,325 wage-earners, of whom 835 were men and 1,490 women; the children were not separately reported. The wage-earners received \$360,336 in wages, and the cost of materials used was \$415,113. These are all the statistics that were given in the census report for that year. The growth of the industry from these small beginnings to its condition in 1900 is almost marvelous. In fifty years the 85 establishments have increased to 921. The \$1,028,102 shown as the value of products in 1850, increased to \$95,482,566 in 1900; the capital had increased 150 times, amounting to \$81,860,604. The wage-earners numbered 83,387, 21,154 of whom were men, 53,565 women, and 8,668 children. Their wages amounted to \$24,358,627, 24 times the total value of the product in

1850. The cost of materials used has not increased in the same proportion as has the capital, but in 1900 it was \$51,071,859, which is over 120 times the value of the materials used in 1850. The growth in value of product during the fifty years has been in the following proportions:

From 1850 to 1860, 7 times.

From 1860 to 1870, 2½ times.

From 1870 to 1880, 1½ times.

From 1880 to 1890, 2½ times.

From 1890 to 1900, 1½ times the product of the earlier year.

#### ESTABLISHMENTS.

Of the 921 establishments reported, 588 were in the Middle states and 133 in the New England states. In point of numbers Pennsylvania was first, with 319;

New York second, with 242; Massachusetts had only 54; Connecticut, 25; New Hampshire, 22; New Jersey, 16; Rhode Island, 15; Vermont, 14; Delaware, 7; Maryland, 4; and Maine, 3.

## CAPITAL.

The capital employed in 1850 amounted to only \$544,735. It 1860 it had increased to \$4,035,510. In 1900 it was more than 20 times the amount employed in 1860, being \$81,860,604, and 150 times the amount employed in 1850. The Middle states naturally showed the largest amount of capital, the total being \$48,531,122, of which New York had \$30,203,640 and Pennsylvania \$15,743,981. In New England the total capital employed was \$19,014,126, or only about \$3,300,000 more than in the state of Pennsylvania.

The capital employed in Massachusetts was \$6,288,672. Connecticut had \$6,149,338; New Hampshire, \$2,525,286; Rhode Island, \$2,452,044. Neither of the other states in these groups employed a capital amounting to \$2,000,000.

The following statement shows the statistics of capital for 1890 and 1900:

	CAPITAL.		Percent of increase.
	1900	1890	
Aggregate.....	\$81,860,604	\$50,607,738	61.8
Total fixed capital.....	36,960,919	23,574,761	56.8
Land.....	3,367,762	2,271,466	48.3
Buildings.....	9,556,726	6,194,088	54.3
Machinery, tools, and implements.....	24,036,431	15,109,207	59.1
Cash on hand, unsettled ledger accounts, stock on hand, etc.....	44,899,685	27,032,977	66.1

## MACHINERY.

The first report of machinery of this industry was made at the census of 1870, at which time there were 519 sets of cards, 5,625 knitting machines, 1,668 sewing machines, 438 looms, and 148,385 spindles. In 1900 the industry employed 1,161 sets of woolen cards, distributed according to the following statement, which shows not only the number of sets of cards in each state but also the width of the cards reported. The horsepower increased in the decade 20,149, or 58.6 per cent. The actual increase was next in rank to that of the worsted manufacture.

TABLE 26.—NUMBER AND WIDTH OF CARDS, BY STATES: 1900.

STATES.	Actual number of sets in each state.	Number reporting width.	NUMBER OF CARDS OF EACH WIDTH REPORTED.							
			30 inches.	32 inches.	40 inches.	42 inches.	44 inches.	48 inches.	60 inches.	64 inches.
United States.....	1,161	1,161	3	4	432	15	7	569	110	21
Connecticut.....	134	134		4	47			81	2	
Illinois.....	7	7						1	6	
Indiana.....	27	27			5			21	1	
Idaho.....	1	1			1					
Massachusetts.....	39	39			6			30	3	
Minnesota.....	3	3						3		
Michigan.....	28	28			5			18	5	
New Hampshire.....	74	74			46			28		
New Jersey.....	26	26						26		
New York.....	674	674	3		308	14	7	264	57	21
North Carolina.....	5	5						5		
Ohio.....	10	10						9		
Pennsylvania.....	31	31			1			12	19	
Rhode Island.....	10	10						10		
Vermont.....	40	40			11			26	3	
Virginia.....	34	34						30	4	
West Virginia.....	2	2							2	
Wisconsin.....	16	16			2	1		5	8	

The industry employed also 15<sup>1</sup> combing machines and 521,871 spindles—of which 290,366 were woolen, 14,064 worsted, and 205,742 cotton spinning spindles and 3,613 woolen, 7,130 worsted, and 956 cotton doubling spindles—133 looms, 89,047 knitting machines of all kinds, and 24,535 sewing machines. The 15 combing machines were in New England, 9 being in Connecticut, 3 in Rhode Island, and 3 in Massachusetts. Of the cards, 297 were in New England, 678 in the Mid-

<sup>1</sup> See Table 42.

dle states, 44 in the Southern, and 91 in the Western states. New York reported the largest number of cards, 674; Connecticut was next with 134; New Hampshire had 74; Vermont, 40; Massachusetts, 39; Virginia, 34; Pennsylvania, 31; Michigan, 28; Indiana, 27; New Jersey, 26; and Wisconsin 16. None of the other states reported more than 12 sets, and some did not report any.

The following table shows the number of mills employing sets of woolen cards according to number of sets in 1890 and 1900:



TABLE 27.—HOSIERY AND KNIT GOODS: NUMBER OF MILLS ACCORDING TO SETS OF CARDS: 1890 AND 1900.

GEOGRAPHICAL DIVISIONS.	Year.	Number reporting sets of cards.	1 set.	2 sets.	3 sets.	4 sets.	5 sets.	6 sets.	7 sets.	8 sets.	9 sets.	10 to 15 sets.	15 to 20 sets.	20 sets and over.
United States .....	1900	182	9	22	14	23	17	24	11	17	11	28	4	2
	1890	188	17	25	26	26	19	20	19	8	7	21	3	3
New England states .....	1900	42	2	4	2	4	3	5	4	7	3	7	.....	1
	1890	59	8	9	7	6	5	6	5	5	1	6	.....	1
Middle states .....	1900	105	1	11	8	14	12	12	7	8	8	19	4	1
	1890	108	3	11	15	16	7	13	14	8	6	15	3	2
Southern states .....	1900	10	1	2	.....	1	1	5	.....	.....	.....	.....	.....	.....
	1890	2	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Western states .....	1900	25	5	5	4	4	1	2	.....	2	.....	2	.....	.....
	1890	19	6	4	4	4	1	.....	.....	.....	.....	.....	.....	.....

## SPINDLES.

Of the total number of spindles in the United States in 1900, 233,253 were in New England, 108,938 in Massachusetts, 79,536 in Connecticut, 26,867 in New Hampshire, 11,076 in Vermont, and 6,836 in Rhode Island. In the Middle states there were 231,594 spindles. New York had 191,582; Pennsylvania, 31,604; New Jersey, 8,408; none were reported in Delaware and Maryland. In the Southern group 24,126 spindles were reported, half of which, 12,036, were in Virginia; South Carolina had 5,620, North Carolina 2,860, and the remaining 3,610 were distributed in various states. The Western group reported 32,898 spindles, of which 8,694 were in Wisconsin, 8,500 in Indiana, 6,686 in Michigan, 3,920 in Ohio, 3,480 in Illinois, and 1,418 in Minnesota. The other Western states reported only 200 spindles in all.

The total number of spindles in the United States engaged in this industry is as follows:

## COMPARATIVE STATEMENT OF SPINDLES, 1890 AND 1900.

	WOOLEN.		WORSTED.		COTTON.	
	1900	1890	1900	1890	1900	1890
Hosiery and knit goods mills .....	293,979	312,756	21,194	6,767	206,698	69,830

The knitting machines were distributed as follows: 32,860 in New England, 40,407 in the Middle states, 5,519

in the Southern states, and 10,261 in the Western states. Of those in New England, New Hampshire had 23,174; Massachusetts, 5,003; Connecticut, 2,662; Rhode Island, 1,262; Vermont, 633; Maine, 126. In the Middle states they were distributed thus: Pennsylvania, 26,120; New York, 11,666; New Jersey, 1,335; Delaware, 674; and Maryland, 612. The Southern states had a total of 5,519 machines, of which 1,354 were in North Carolina, 1,078 in Georgia, 993 in Virginia, 735 in South Carolina, 581 in Tennessee, 81 in Louisiana, and the rest were distributed in various states. In the Western group of states there were 10,261, of which Wisconsin had 2,832; Michigan, 2,828; Illinois, 1,975; Ohio, 1,147; Indiana, 633, and Minnesota, 476. The remaining number were distributed in various states.

A comparison of the number of knitting machines with the product produces some surprising results. Some of the states, for instance, possessing the larger number of machines, produced a comparatively small amount of goods, and other states, with a smaller number of machines, were the great producers of hosiery and knit goods. This condition of affairs is accounted for by the fact that in the states possessing the greater number of machines there were a large number of small hand machines, capable of only a limited production, but in other states the machines were the large circular machines or cylinders, operated by power, and capable of an immense production.

The following statement shows the idle capital and machinery of the industry:

## STATEMENT.—IDLE CAPITAL AND MACHINERY, BY STATES: 1900.

STATES.	Number of establishments.	CAPITAL.					MACHINERY.		
		Total.	Land.	Buildings.	Machinery, tools, and implements.	Cash and sundries.	Sets of cards.	Spindles.	Knitting machines.
United States .....	36	\$1,173,803	\$102,450	\$236,900	\$544,426	\$290,027	55	11,464	1,173
New York .....	10	784,050	81,500	160,000	368,300	179,250	.....	.....	.....
North Carolina .....	3	84,900	1,600	13,700	45,000	24,600	48	7,880	412
Ohio .....	3	68,091	1,300	16,500	30,000	20,291	.....	.....	149
Pennsylvania .....	9	61,843	3,050	18,700	33,500	11,593	1	304	104
All other states <sup>1</sup> .....	11	174,919	15,000	83,000	72,626	54,293	6	3,280	147
									361

<sup>1</sup> Includes establishments distributed as follows: Connecticut, 1; Georgia, 1; Illinois, 1; Massachusetts, 2; Mississippi, 1; New Jersey, 2; South Carolina, 1; Wisconsin, 2.

## THE INDUSTRY BY GEOGRAPHICAL DIVISIONS.

Tables No. 41 and 42 show the condition and growth of the industry from the beginning of its statistical record in 1850 to the present time, not only in the whole country, but in each state and territory, and also in the several states grouped according to their geographical location.

At the census of 1850 the products were reported without any indication of the localities in which the mills were situated. It was not until 1860 that the reports were so segregated as to show the location of the industry. At that time the total value of products was \$7,280,606, of which \$4,847,984 was produced in the Middle states and \$2,374,242 in New England, leaving only \$58,380 for the rest of the country. The value of products in these two groups of states was \$7,222,226. The product of the various states in these geographical divisions was as follows, in order of value of production:

Pennsylvania .....	\$2, 114, 315
New York .....	1, 944, 090
Connecticut .....	1, 383, 528
New Jersey .....	783, 456
New Hampshire .....	573, 794
Massachusetts .....	314, 120
Vermont .....	102, 800
Maryland <sup>1</sup> .....	6, 123

In 1900 the value of the products in the Middle states was \$60,473,407, and in New England \$17,834,673, a total of \$78,308,080, or more than ten times the production of 1860, and equal to more than 82 per cent of the total value of these goods produced in the United States. The standing of these states by value of products was as follows:

New York .....	\$35, 886, 048
Pennsylvania .....	21, 896, 063
Massachusetts .....	6, 620, 257
Connecticut .....	4, 043, 977
Rhode Island .....	2, 713, 850
New Hampshire .....	2, 592, 829
Vermont .....	1, 834, 685
New Jersey .....	1, 784, 148
Maryland .....	514, 093
Delaware .....	429, 055
Maine .....	29, 075

## WESTERN STATES.

The states grouped together as Western states, which include Ohio, Michigan, Indiana, Wisconsin, Illinois, and all the remaining states west of the Mississippi River, excepting Arkansas, Louisiana, and Texas, possessed 129 establishments, with a capital of \$10,792,485. They employed 11,061 wage-earners, who received \$2,885,045 in wages. Of these wage-earners, 2,535 are men, 7,400 women, and 1,126 children. The materials used cost \$6,248,504, and the goods produced

<sup>1</sup> Maryland is in the tabulation grouped with the Middle states.

were valued at \$12,143,150. It is only in Ohio and Missouri that any of these establishments existed prior to 1860. At the census of 1860 Ohio reported 11 establishments, with a capital of \$10,900, and Missouri 2 establishments, with a capital of \$11,000. The number in Ohio has since grown to 24, with a capital of \$1,067,937. In 1890 Missouri had 7 factories, with a capital of \$33,247. These have since been reduced to 2 in number, and their statistics are not separately reported. Michigan, the knit-goods industry of which first appears in the census of 1880 with 11 establishments, was in 1900 the most important of the Western group, having 32 factories, with a capital of \$2,135,916, employing 2,509 wage-earners, consuming material to the value of \$1,459,378, and producing goods valued at \$2,791,257. Wisconsin was second, with 27 establishments, a capital of \$2,558,299, and 2,722 wage-earners, earning \$600,495. The cost of materials used was \$1,176,146 and the value of products \$2,486,813. Indiana, which stood sixth in number of establishments and first in capital, was third in value of products. This state had 7 factories, with a capital of \$2,728,306, and employed 2,016 wage-earners, with wages amounting to \$703,129. The materials used cost \$1,200,483, from which goods to the value of \$2,424,304 were produced. Illinois was next in rank, with 14 establishments, \$1,530,990 capital, 1,805 wage-earners, \$494,285 in wages paid, \$1,261,242 expended for materials, and products valued at \$2,145,429. Ohio had 24 establishments, with a capital of \$1,067,937, wage-earners numbering 1,413, and wages paid amounting to \$354,369. The cost of materials was \$807,673, and the products were valued at \$1,576,285. None of the other states in this group reported products valued at over \$500,000.

## SOUTHERN STATES.

In this group of states the industry is of very recent origin. The census of 1860 showed 3 establishments in Kentucky, but none was reported after that until 1880, when 1 establishment was returned, with no statement as to its location. At the census of 1900 71 establishments were reported, located as follows: Twenty-four in North Carolina, 16 in Georgia, 15 in Virginia, 6 in South Carolina, 4 in Tennessee, 2 in West Virginia, and 1 each in Alabama, Louisiana, Mississippi, and Texas. The capital employed in these states was \$3,522,871, the number of wage-earners 6,137, the wages paid \$1,115,356, the cost of materials \$2,798,219, and the value of products \$5,031,336.

## MATERIALS USED.

The following comparative statement shows the quantity of materials used, both in 1890 and 1900, and indicates the growth in favor of knitted cotton garments:

COMPARATIVE STATEMENT OF QUANTITY AND COST  
OF MATERIALS USED, 1900-1890.

CLASSES.	1900	1890
Total cost .....	\$51,071,859	\$35,861,585
Wool, foreign and domestic, in condition purchased:		
Pounds .....	17,953,907	21,639,393
Cost .....	\$5,262,135	\$3,254,418
Raw cotton:		
Pounds .....	49,451,301	32,432,617
Cost .....	\$3,561,592	\$3,712,215
Mohair:		
Pounds .....	631,199	139
Cost .....	\$44,953	\$87
Woolen yarn not made in mill:		
Pounds .....	2,621,893	6,386,370
Cost .....	\$1,257,587	\$3,791,497
Worsted yarn not made in mill:		
Pounds .....	5,823,215	4,146,035
Cost .....	\$4,865,304	\$4,279,105
Merino yarn not made in mill:		
Pounds .....	1,981,484	(1)
Cost .....	\$642,535	(1)
Cotton yarn not made in mill:		
Pounds .....	131,820,068	32,248,849
Cost .....	\$22,204,918	\$7,588,973
Linen yarn not made in mill:		
Pounds .....	71,478	301,695
Cost .....	\$53,558	\$65,335
Silk and spun-silk yarn not made in mill:		
Pounds .....	268,247	120,341
Cost .....	\$946,801	\$600,315
Yarn of jute, ramie, or other vegetable fiber not made in mill:		
Pounds .....	44,682	.....
Cost .....	\$57,677	.....
Shoddy, purchased and made:		
Pounds .....	3,770,626	4,735,144
Cost .....	\$485,792	\$875,948
Waste and wool noils:		
Pounds .....	5,276,454	5,503,286
Cost .....	\$1,487,907	\$2,021,492
All other materials, cost .....	\$10,195,070	\$4,669,200

<sup>1</sup> None reported.

The quantity of wool used has decreased 3,685,486 pounds. The quantity of woolen yarn also has been reduced, but the quantity of worsted yarn has increased. In 1890 no separate report of merino yarns used was made. In 1900 the use of 1,981,484 pounds was reported. The consumption of woolen, worsted, and merino yarns was nearly the same in quantity as the consumption of woolen and worsted yarns in 1890. The quantity of linen yarn has been reduced from 301,695 pounds to 71,478 pounds, and the quantity of raw-silk and spun-silk yarns has increased from 120,341 pounds in 1890 to 268,247 pounds. The use of shoddy has fallen off about 1,000,000 pounds, while the quantity of wool waste and noils used has remained about the same. The use of cotton and cotton yarns has increased greatly, and in consequence the whole character of the industry has altered. In 1890, 32,432,617 pounds of cotton and 32,248,849 pounds of cotton yarn were used in this industry. In 1900 the demand for cotton goods had so increased that 49,451,301 pounds of raw cotton and 131,820,068 pounds of cotton yarn were necessary, which would require approximately 160,000,000 pounds of cotton for its production, making the total quantity of cotton used in this manufacture 209,000,000 pounds, costing \$25,766,510, compared with 17,953,907 pounds of wool used, which cost \$5,262,135.

## DYE STUFFS, CHEMICALS, ETC.

The cost of dyestuffs, chemicals, etc., used in 1900 and 1890 was as follows:

YEARS.	Dyestuffs and chemicals, value.	OIL.		SOAP.	
		Gallons.	Value.	Pounds.	Value.
1900 .....	\$1,023,161	396,278	\$91,315	5,903,557	\$204,485
1890 .....	564,053	523,504	135,037	6,647,286	212,841

## PRODUCTS.

The gross value of products was \$95,482,566, an increase of 42 per cent over 1890, when the value amounted to \$67,241,013. The most important in value of these manufactures were the underwear, shirts and drawers of all kinds, valued at \$45,157,549, or 37 per cent more than the value of similar goods made in 1890. In addition to these was the value of union or combination suits used for the same purposes, amounting to \$3,691,847, which might properly be included with the total of shirts and drawers. The next in importance were the hose and half hose, the value of which was \$27,672,013. The above items cover all but \$19,000,000 of the total value of products. The balance was divided among the less important items of manufacture, the largest in value being gloves and mittens, with a value of \$4,244,046, closely followed by cardigan jackets, etc., with a value of \$3,498,837. The gross value of products of the hosiery and knit goods manufacture was \$95,482,566. The value of products twice reported<sup>1</sup> was \$9,527,121, which being subtracted leaves \$85,955,445, as the net value of the hosiery and knit goods productions. The following table contains a comparative summary of the quantity and value of products at the censuses of 1890 and 1900:

TABLE 28.—HOSIERY AND KNIT GOODS: KIND, QUANTITY AND VALUE OF PRODUCTS, 1890 AND 1900, WITH PER CENT OF INCREASE.

CLASSES.	1900	1890	Per cent of increase.
Total .....	\$95,482,566	\$67,241,013	42.0
Woolen, merino and cotton half hose:			
Dozens .....	13,249,558	7,078,505	87.2
Value .....	\$11,030,244	\$7,434,131	48.4
Woolen, merino and cotton hose:			
Dozens .....	16,641,769	10,062,886	65.4
Value .....	\$16,203,372	\$11,728,075	38.2
Merino, all-wool and cotton shirts and drawers:			
Dozens .....	15,818,893	6,862,157	130.5
Value .....	\$45,157,549	\$32,961,997	37.0
Leggings and gaiters:			
Dozens .....	71,038	25,072	183.3
Value .....	\$248,523	\$85,401	191.0
Gloves and mittens:			
Dozens .....	1,898,587	896,150	111.8
Value .....	\$4,244,046	\$1,935,080	119.8

<sup>1</sup> See page 27.

TABLE 28.—HOSIERY AND KNIT GOODS: KIND, QUANTITY AND VALUE OF PRODUCTS, 1890 AND 1900, WITH PER CENT OF INCREASE—Continued.

CLASSES.	1900	1890	Per cent of increase.
Hoods, scarfs, nubias, etc.:			
Dozens .....	343,429	342,497	0.3
Value .....	\$1,002,392	\$1,476,480	132.1
Cardigan jackets, etc.:			
Dozens .....	594,090	361,478	64.4
Value .....	\$3,498,837	\$3,576,248	12.2
Knit shawls:			
Dozens .....	157,622	22,990	585.6
Value .....	\$328,720	\$115,467	184.7
Fancy goods, wristers, etc.:			
Dozens .....	284,085	270,533	5.2
Value .....	\$951,052	\$759,648	25.2
Boof and shoe linings:			
Yards .....	10,406,440	7,596,711	37.0
Value .....	\$2,205,008	\$1,038,558	102.6
Total value.....	\$84,869,738	\$61,161,035	38.8
Jersey cloth:			
Yards.....	4,488,911	3,065,057	46.5
Value .....	\$1,805,876	\$2,167,692	139.5
All-wool and union or merino yarns:			
Pounds .....	88,327	352,180	190.2
Value .....	\$40,887	\$472,703	191.5
Worsted yarns:			
Pounds .....	51,202	17,000	201.2
Value .....	\$36,303	\$13,642	166.1
Cotton yarn:			
Pounds .....	2,419,282	500,000	383.9
Value .....	\$422,100	\$150,000	181.4
Wool rolls, nolls, waste and all other partly manufactured products:			
Pounds.....	385,863	( <sup>2</sup> )	.....
Value .....	\$31,267	\$53,866	119.5
Total value of all partly manufactured products .....	\$530,057	\$675,211	121.5
All other products, <sup>3</sup> value .....	\$8,503,464	\$3,184,950	167.0
Contract work, value .....	\$273,931	\$63,125	340.9

<sup>1</sup> Decrease.<sup>2</sup> Not reported.<sup>3</sup> "All other products" for 1900 includes combination suits valued at \$3,601,847. No combination suits were exported in 1890.

In addition to the above, knit goods, valued at \$31,919 in 1900 and \$84,134 in 1890, were made in woolen mills and reported with the products of the wool manufacture. This table, although it presents a comparison of the products of the two census years, does not show the trend toward increased production of cotton fabrics. Examination of the general tables for the hosiery and knit-goods industry in these two reports develops that

the manufacture of woolen hosiery has fallen off in quantity over 41.3 per cent, and that woolen underwear, including combination suits, has not varied materially. The manufacture of merino hosiery has increased 72.3 per cent and merino underwear about 5.9 per cent. The manufacture of cotton hosiery and underwear has greatly increased. In 1890, 5,341,628 dozens half hose were made, 7,387,259 dozens of cotton hose, and 3,246,590 dozens shirts and drawers. At the census of 1900, reports were received of the production of 11,352,081 dozens cotton half hose, 15,028,173 dozens cotton hose, 12,058,431 dozens cotton shirts and drawers, and 824,632 dozens cotton combination suits.

The relative value of the production of the wool, merino, and cotton goods of these kinds at the two censuses is as follows:

	1900	1890
Woolen.....	\$9,188,701	\$16,497,895
Merino .....	16,471,880	16,451,999
Cotton .....	50,306,145	19,174,809

The table emphasizes the increased use of cotton in these fabrics, especially when the lower price of the fiber is considered in connection with the remarkable increase in the value of the product.

In addition to the goods made of cotton or wool, a very considerable quantity of silk fabrics were made on knitting machines. The statistics for 1900 show the production of 12,572 dozens of silk or silk-mixed hosiery, valued at \$186,413; 54,807 dozens shirts and drawers, valued at \$518,045, and 12,728 dozens of combination suits, valued at \$116,286. There were also manufactured a large quantity of silk gloves and mitts, but the census schedules did not provide for their being reported separately from similar goods made of other fibers. The expert special agent in charge of silk manufactures estimates the value of these goods to have been equal to \$1,000,000. The total quantity of silk and spun-silk yarns used was 266,247 pounds, costing \$946,801.

## CONCLUSION.

The progress of the American wool manufacture and connected industries during the decade is shown by this investigation to have been very satisfactory.

The manufacture shows an increase in value of products of 9.88 per cent in 1900 as compared with 1890. The increase in value of products in the hosiery and knit goods manufacture was 42 per cent.

It is to be regretted that there are no data with which a comparison of the wool manufacture of the United States and foreign countries can be made, either by value of products or materials consumed. The principal information available is that contained in the annual wool reports of Messrs. Helmuth Schwartz & Co., of London, England, which contain very full statistics of the wool production of the United Kingdom, and its

imports and exports of wool compiled from the Board of Trade returns. They also contain statements of the movement of wools from the British colonial possessions to the continent of Europe and to the United States; but so far as Europe is concerned, these statements are not sufficient for the desired purpose. It is only possible, therefore, to compare the consumption of wool in the United States with that in the United Kingdom. From the Helmuth Schwartz & Co. reports it appears that the quantity of wool retained for consumption in Great Britain in 1890 was 428,000,000 pounds, and in 1900, 502,000,000 pounds. The quantity left for consumption can not, however, be safely assumed to represent the quantity actually consumed. The statements, as made, simply give the difference

between the sum of the home production plus the imports and the exports. The quantity on hand at the beginning of any period under consideration should be added, and what remains at the close deducted from the quantity "retained for consumption;" this will give what may be called the "takings" of wool for the period.

But, as it is impossible to know what quantities are in the hands of manufacturers or dealers at any time, to ascertain as nearly as possible the actual consumption, an average of the takings for two periods of three years each in the United Kingdom, has been obtained. For the years 1898, 1899, and 1900 the average takings were 506,000,000 pounds; in 1888, 1889, and 1890 they were 426,000,000 pounds; these quantities may be considered as representing the quantity of wool, in condition purchased, consumed in the English wool manufactories in 1900 and in 1890. The increased consumption in 1900 over 1890 was 80,000,000 pounds, or 18.8 per cent. The consumption in the United States in 1890 was 351,158,020 pounds; in 1900, 412,323,410 pounds, an increase of 61,165,410 pounds, or 17.4 per cent. The ratio of increase in quantity of wool consumed was, therefore, very nearly the same in both countries. Together in 1900 they consumed nearly one-third of the world's annual wool product. Of this consumption the United States used 45 per cent and the United Kingdom 55 per cent. There is this important difference, however, between the two: the wool manufactures of the United States are consumed almost entirely within its own borders, but many of those of the United Kingdom are exported. The manufactures of wool exported from the United Kingdom, in excess of the imports in 1900, amounted to £11,119,000, equal to \$54,110,614. This sum includes the value of tops, yarns, and all other products of the wool manufacture and of hosiery and small wares.

In addition to the wool consumed in the United Kingdom, a large quantity of shoddy of all kinds is used for which no statistics are available. This is made from rags and pieces of home production supplemented by shoddy produced from imported rags. The imports of woollen rags into the United Kingdom for the three years 1898, 1899, and 1900 averaged 69,617,000 pounds. The annual consumption of shoddy in the United Kingdom is estimated to be not less than 130,000,000 pounds.

The productions of the American looms in general compare favorably with imported fabrics. The importations consist principally of novelties and goods of high grade, requiring more time and labor for their fabrication than the conditions of manufacturing in the United States permit at present.

The machinery of the American wool manufacture is equal to any in the world and in some respects superior. American manufacturers are quick to adopt any mechanical device which will increase production or add to the perfection of their fabrics, and American ingenuity is

always at work devising improvements to existing machinery or inventing new and better machines. Some of the most important inventions in wool manufacturing machinery were made by Americans, of which a full statement is to be found in the report of wool manufactures for 1890.<sup>1</sup> Since that date numerous improvements have been made, but nothing of so marked a character as to require special notice.

The facilities for textile education in the United States are much greater now than in 1890. Then only one school existed, devoted exclusively to that purpose, the Philadelphia Textile School connected with the Pennsylvania Museum of Fine Arts. The School of Design connected with the Massachusetts Institute of Technology supplied in some degree a training similar to that obtained in foreign schools. Much attention has been directed during the decade to the subject of textile education, especially in Massachusetts, and in addition to the school named, that state now has large and well established textile schools at Lowell and New Bedford, supported partly by the state and municipalities and partly from private sources. In South Carolina there is a textile department in the South Carolina Agricultural College at Clemson, and in North Carolina one in the Agricultural and Mechanical Institute at Raleigh. A school known as the French Textile School is connected with the Georgia Institute of Technology at Atlanta, and there is a textile department in the Mississippi Mechanical College at Starkville. Besides these there are evening schools for loom fixers and weavers at Lawrence and Fall River, Mass., and correspondence schools at various places in the United States. All are doing good work in training the textile workers for the higher branches of their profession. The results of this technical training are already manifest in the more artistic styles produced and in the economies of manufacture introduced by the graduates of these schools.

In the text and annexed to it are numerous tabular statements together with tables numbered 1 to 28, inclusive, illustrative of the text. In addition to those in the text, the following tables are presented containing the statistics for all branches and subdivisions of the wool industry, and also for the shoddy, fur hat, and hosiery and knit goods manufactures. In the consideration of these tables reference should be made to the text of this report and to the other tables and statements included in it.

Particular attention is invited to the fact that these comparative tables include the results of widely varying methods of inquiry, so that a careful consideration of the explanatory footnotes is essential in order to avoid erroneous deductions.

Table 29 comprises all the items of the inquiry common to a number of periods, and the statistics are given

<sup>1</sup> Eleventh Census of the United States, 1890, Manufacturing Industries, Part III, page 68.

for each decennial year from 1840 to 1900, both inclusive.

Table 30 exhibits a total for the United States, under each item of the schedule of inquiry for 1900, for each branch of the industry, viz, woolen mills, worsted mills, carpet mills, felt mills, and wool hat mills.

The six tables following Table 30 correspond thereto in form and scope, but contain statistics for each of the different branches of the industry segregated in these tables and shown by totals for each state and for the United States. Their titles are as follows:

Table 31—Woolen mills.

Table 32—Worsted mills.

Table 33—Carpet mills.

Table 34—Felt mills.

Table 35—Wool hat mills.

Table 36 contains statistics of custom carding mills.

Table 37 contains the statistics for wool scouring in 1900.

Table 38 contains the statistics for wool pulling in 1900.

Table 39 is a detailed presentation by totals for states and for the United States, showing the results of the inquiry relating to the shoddy manufacture.

Table 40 is a detailed statement of the fur hat manufacture in 1900, with the totals by states and for the United States.

Table 41 is a comparative summary for hosiery and knit goods for each census year, beginning with 1850, and contains all the items of inquiry common to the decades.

Table 42 exhibits a total for the United States under each item of the schedule of inquiry for 1900, for the hosiery and knit goods manufacture.



## MANUFACTURES.

TABLE 29.—WOOL MANUFACTURE (EXCLUDING HOSIERY AND KNIT GOODS): COMPARATIVE

STATES AND TERRITORIES.	Year.	Number of establishments. <sup>1</sup>	Capital.	SALARIED OFFICIALS, CLERKS, ETC.		AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES.				
				Number.	Salaries.	Total.		Men, 16 years and over.	Women, 16 years and over.	Children, under 16 years.
						Average number.	Wages.			
United States.....	1900	1,414	\$810,179,749	4,495	\$6,455,495	150,108	\$57,933,817	83,371	64,141	11,596
	1890	1,093	245,886,743	23,652	24,057,695	154,271	54,839,775	78,550	64,944	10,777
	1880	2,330	148,512,278	(*)	(*)	132,872	40,687,612	67,942	49,107	15,623
	1870	3,208	121,451,050	(*)	(*)	105,071	35,928,150	53,400	39,150	12,621
	1860	1,476	38,814,422	(*)	(*)	50,419	11,699,630	29,852	20,567	(*)
	1850	1,675	31,971,631	(*)	(*)	45,438	(*)	26,559	18,879	(*)
	1840	1,420	15,765,124	(*)	(*)	21,342	(*)	21,342	(*)	(*)
New England states.....	1900	488	177,844,108	2,086	3,350,088	82,472	31,230,772	46,540	31,424	4,504
	1890	518	134,627,725	1,316	1,887,649	77,747	28,190,048	42,323	31,138	4,286
	1880	564	75,522,666	.....	.....	67,582	21,890,036	34,989	25,712	6,031
	1870	676	68,856,145	.....	.....	54,851	19,588,984	28,462	22,605	5,784
	1860	420	24,700,353	.....	.....	30,130	7,082,555	16,993	13,137	.....
	1850	482	17,667,892	.....	.....	22,520	.....	11,980	10,540	.....
	1840	489	9,259,985	.....	.....	11,268	.....	11,268	.....	.....
Maine.....	1900	81	14,512,120	225	281,761	7,324	2,782,564	4,699	2,425	200
	1890	78	9,456,830	126	136,841	5,067	1,824,670	3,162	1,755	150
	1880	96	4,016,328	.....	.....	3,244	1,090,528	1,810	1,140	224
	1870	108	4,187,745	.....	.....	3,104	1,065,151	1,592	1,287	225
	1860	28	940,400	.....	.....	1,064	273,596	565	499	.....
	1850	36	467,600	.....	.....	624	.....	310	814	.....
	1840	24	316,105	.....	.....	582	.....	582	.....	.....
New Hampshire.....	1900	45	11,280,295	181	166,074	5,461	2,045,316	3,130	2,201	130
	1890	52	12,015,721	120	161,908	6,102	2,100,657	3,160	2,768	184
	1880	61	7,150,855	.....	.....	5,599	1,701,619	2,811	2,284	504
	1870	82	5,626,100	.....	.....	5,081	1,788,894	2,259	2,328	494
	1860	54	2,647,300	.....	.....	2,655	687,746	1,291	1,364	.....
	1850	61	2,437,700	.....	.....	2,127	.....	826	1,201	.....
	1840	66	740,345	.....	.....	898	.....	898	.....	.....
Vermont.....	1900	24	3,202,151	57	78,525	1,557	603,963	1,060	470	27
	1890	29	3,304,382	44	42,475	1,541	582,965	903	601	37
	1880	44	2,320,161	.....	.....	2,084	544,138	1,171	783	130
	1870	66	2,330,900	.....	.....	1,895	640,628	885	759	201
	1860	46	1,746,300	.....	.....	2,073	214,572	895	1,178	.....
	1850	72	886,300	.....	.....	1,393	.....	633	710	.....
	1840	95	1,406,950	.....	.....	1,450	.....	1,450	.....	.....
Massachusetts.....	1900	195	90,128,754	1,048	1,710,094	42,069	16,057,849	23,803	16,420	2,286
	1890	219	66,568,586	624	926,458	37,789	13,732,316	20,036	15,391	1,712
	1880	214	36,764,000	.....	.....	34,717	11,027,822	17,588	14,060	8,069
	1870	226	26,722,900	.....	.....	28,025	9,809,718	13,223	11,961	2,836
	1860	147	18,005,853	.....	.....	15,688	8,658,589	8,904	6,674	.....
	1850	119	9,089,342	.....	.....	11,130	.....	6,167	4,963	.....
	1840	144	4,179,850	.....	.....	5,076	.....	5,076	.....	.....
Rhode Island.....	1900	78	41,307,942	407	750,494	17,854	6,721,040	9,141	7,230	1,483
	1890	69	24,310,743	246	333,078	17,541	6,228,686	8,703	7,111	1,727
	1880	61	13,016,116	.....	.....	12,125	3,703,257	5,871	4,387	1,867
	1870	76	10,467,500	.....	.....	7,894	2,862,492	3,644	3,184	1,060
	1860	58	3,169,000	.....	.....	4,232	1,060,728	2,694	1,688	.....
	1850	45	1,013,000	.....	.....	1,768	.....	987	771	.....
	1840	41	685,350	.....	.....	961	.....	961	.....	.....
Connecticut.....	1900	65	17,412,846	218	363,140	8,207	3,040,040	5,147	2,678	382
	1890	71	18,971,463	156	236,894	9,757	3,630,754	5,759	3,522	476
	1880	88	12,255,206	.....	.....	9,813	3,322,672	5,688	3,058	1,067
	1870	117	14,521,000	.....	.....	8,852	3,413,101	4,804	3,086	962
	1860	87	3,191,500	.....	.....	4,468	1,128,324	2,684	1,784	.....
	1850	149	3,773,950	.....	.....	5,488	.....	2,907	2,581	.....
	1840	119	1,931,335	.....	.....	2,356	.....	2,356	.....	.....
Middle states.....	1900	502	110,361,026	1,747	2,361,813	64,973	23,567,092	31,558	27,456	5,959
	1890	552	86,140,259	1,412	1,527,627	62,345	22,401,695	29,582	27,416	5,847
	1880	794	53,834,368	.....	.....	54,138	16,682,073	26,797	20,144	7,197
	1870	1,024	37,194,990	.....	.....	36,322	12,619,089	18,132	18,028	5,112
	1860	659	10,472,728	.....	.....	16,121	3,717,095	9,928	6,193	.....
	1850	717	8,351,908	.....	.....	13,802	.....	8,549	5,258	.....
	1840	620	5,519,175	.....	.....	8,464	.....	8,464	.....	.....
New York.....	1900	100	32,098,305	597	864,861	18,027	6,610,259	8,553	8,330	1,144
	1890	138	26,853,583	357	462,984	17,336	6,133,609	7,814	8,213	1,309
	1880	189	18,248,698	.....	.....	16,428	5,189,180	7,405	6,931	2,092
	1870	272	14,451,232	.....	.....	12,487	4,515,710	6,199	4,588	1,705
	1860	168	4,133,568	.....	.....	6,122	1,851,955	3,475	2,648	.....
	1850	249	4,459,370	.....	.....	6,674	.....	4,262	2,412	.....
	1840	323	3,469,349	.....	.....	4,636	.....	4,636	.....	.....
New Jersey.....	1900	43	18,924,677	210	376,450	8,232	2,574,566	3,877	3,626	720
	1890	35	6,441,571	99	133,517	5,872	1,940,254	2,867	2,786	219
	1880	37	2,991,125	.....	.....	4,072	1,152,754	2,287	1,118	607

<sup>1</sup> The number of establishments affords no clew to the growth or condition of the industry of wool manufacturing. This is due to the fact that in all censuses of the industry (except that of 1880) the custom carding mill has been counted as a wool factory, although it is not, in the modern use of the term, a factory, and hereafter by a distinct statement of the statistics of custom carding mills.

\* Includes proprietors and firm members, with their salaries, number only reported in 1900, but not included in this table.

\* Not reported separately.

\* Not reported.

## SUMMARY, BY STATES AND TERRITORIES ARRANGED GEOGRAPHICALLY, 1840 TO 1900.

MACHINERY.				Miscellaneous expenses.	Cost of materials used.	PRINCIPAL MATERIALS—QUANTITIES CONSUMED.							Value of products.	
Cards.	Combing machines.	Looms.	Spindles.			Wool in condition purchased.			Raw cotton, and cotton warp, and yarn, not made in mill (pounds).	Animal hair and fur and noils, not made in mill (pounds).	Shoddy, not made in mill (pounds).			
						Total (pounds).	Foreign (pounds).	Domestic (pounds).						
6,605 7,015 6,989 8,705 8,319 (4) (4)	1,451 869 515 261 (4) (4)	74,190 69,658 57,297 45,737 16,075 (4) (4)	3,511,099 2,793,147 2,111,973 2,046,113 639,700 (4) (4)	\$17,329,982 15,622,263 (4) (4) (4) (4)	\$181,159,127 167,233,987 149,160,600 124,318,792 43,447,048 28,831,583 (4)	394,369,523 351,158,020 287,597,334 214,378,219 95,452,169 70,882,829 (4)	136,434,961 111,382,308 72,751,940 46,288,305 (8) (8) (4)	257,934,562 239,776,712 214,845,394 168,084,414 (8) (8) (4)	98,632,496 94,372,267 63,880,664 26,420,626 17,248,061 (4)	35,111,063 26,262,816 8,011,037 (8) (8) (8)	34,496,508 56,826,475 50,640,663 19,384,404 (8) (8) (4)	\$296,990,484 270,527,611 238,086,086 199,257,262 73,454,000 48,608,778 20,696,999	1 2 3 4 5 6 7	
3,427 3,702 3,395 3,471 1,774	821 519 302 225	40,238 33,348 30,692 21,865 8,920	2,071,546 1,570,097 1,246,100 1,206,717 393,333	8,475,253 9,143,764	99,783,297 86,887,689 80,152,160 68,819,733 29,570,028 16,065,233	224,826,710 195,867,736 163,763,773 123,791,815 67,702,407 43,118,059	62,874,851 137,437,929 43,475,554 30,295,579	161,951,859 120,388,876 120,288,219 98,496,236	39,135,944 30,833,876 26,775,273 11,479,564 11,888,078	8,530,697 9,366,220 2,441,485	24,435,828 85,721,895 28,653,694 10,917,494	161,566,277 139,302,134 130,014,752 108,295,425 47,722,614 26,077,812 12,959,486	8 9 10 11 12 13 14	
437 387 274 385 80	19 6	2,802 2,020 1,103 1,161 185	181,621 126,418 68,192 66,649 11,765	860,447 593,305	8,142,820 5,075,347 4,443,190 4,013,769 1,035,876 495,940	20,240,598 13,782,749 9,074,011 7,721,228 2,454,800 1,438,434	3,154,524 1,744,381 1,085,606 382,727	17,086,074 12,038,368 7,988,405 7,838,501	3,287,412 2,639,862 1,576,462 769,363 82,500	2,280,861 1,346,818 402,707	3,094,185 1,516,055 1,302,789	18,744,126 8,737,658 6,959,038 6,438,881 1,759,007 753,800 412,366	15 16 17 18 19 20 21	
335 380 317 360 204	34 29 21 12	5,312 4,049 2,884 1,695 696	146,292 136,648 133,223 125,079 36,320	455,398 617,052	6,636,567 7,024,461 6,605,355 6,569,028 2,775,026 1,267,329	16,218,609 18,696,016 15,172,837 11,882,666 5,505,106 3,604,103	1,581,498 4,854,212 2,379,575 1,968,869	14,637,111 13,841,804 12,793,262 9,868,797	6,760,375 4,308,465 2,871,944 1,070,994 861,000	179,362 150,056 50,362	4,181,362 3,424,970 3,115,390 1,380,000	10,881,056 10,963,250 10,858,071 10,518,226 4,358,713 2,127,745 795,784	22 23 24 25 26 27 28	
124 120 146 177 99		775 682 746 670 463	39,208 41,839 46,264 49,255 23,371	181,575 178,385	1,732,372 1,485,163 2,012,490 1,955,972 1,662,650 830,684	3,170,502 3,940,070 3,603,191 4,611,347 4,047,010 2,328,100	341,902 1,279,250 161,404 1,120,680	2,828,600 2,660,820 3,441,787 3,490,667	570,799 659,601 640,470 77,800 279,500	90,058 8,050 7,598	822,069 1,562,221 2,286,150 225,967	2,822,646 2,723,633 3,217,807 3,644,459 2,988,026 1,579,161 1,381,953	29 30 31 32 33 34 35	
1,594 1,785 1,622 1,433 873	424 265 190 172	19,746 16,349 15,863 11,662 4,237	952,854 739,952 588,941 567,611 159,651	4,019,232 4,584,917	49,120,181 42,273,379 40,233,171 33,795,994 15,367,878 8,671,671	118,682,087 97,757,379 84,929,798 63,499,752 39,731,072 22,229,952	42,586,492 34,930,030 28,011,595 20,189,746	76,095,595 62,827,349 56,918,203 43,310,006	17,382,063 15,160,584 13,704,566 5,056,357 5,871,370	3,767,134 6,770,990 1,751,208	9,308,403 21,608,371 13,017,085 5,994,110	81,041,537 67,599,321 64,968,200 52,270,608 24,015,443 12,770,566 7,082,398	36 37 38 39 40 41 42	
478 558 495 484 253	287 193 70 7	8,007 6,608 6,957 3,383 1,586	529,219 340,326 228,262 215,973 86,048	2,153,422 1,868,032	25,087,370 19,976,086 13,079,812 9,826,158 4,071,464 1,463,900	51,727,800 39,973,992 27,141,974 14,421,967 6,335,100 4,103,370	10,710,322 8,929,242 4,469,088 772,247	41,017,478 31,044,750 22,672,386 13,649,720	7,709,524 4,095,989 4,783,289 1,697,189 3,056,200	1,147,471 317,184 166,593	2,103,887 5,442,795 2,027,782 919,000	39,042,660 82,205,829 21,588,204 15,394,067 6,917,705 2,381,825 842,172	43 44 45 46 47 48 49	
459 532 543 632 265	57 27 21 34	3,596 3,640 3,139 3,294 1,753	222,352 184,914 176,218 182,150 76,178	855,179 1,802,073	9,063,987 10,503,253 13,728,142 12,658,822 4,657,634 3,325,700	14,787,114 21,717,580 23,841,962 21,704,855 9,129,819 9,414,100	4,500,113 6,692,692 7,368,286 5,861,310	10,287,001 15,024,838 16,473,676 15,493,545	3,425,771 3,969,375 3,198,542 2,207,911 1,732,508	1,065,511 772,522 62,717	4,475,922 5,442,795 6,903,998 2,398,417	14,584,252 17,072,398 22,423,458 19,939,184 7,733,320 6,465,216 2,494,318	50 51 52 53 54 55 56	
2,277 2,203 2,154 2,558 920	601 301 210 86	27,531 29,002 22,206 18,291 6,432	1,116,158 914,990 638,484 554,247 210,054	7,681,003 5,046,720	71,116,948 68,103,765 57,908,066 41,941,018 10,938,446 8,040,747	188,554,768 118,634,796 95,389,023 61,166,252 18,910,319 22,437,754	71,646,991 50,706,698 28,976,386 15,334,201	66,907,777 67,928,098 66,412,637 45,332,051	49,940,939 54,972,659 33,857,475 13,321,576 4,943,188	26,492,962 16,823,593 5,463,552	7,877,940 18,913,964 20,951,183 8,457,123	118,258,243 110,911,523 91,136,451 68,467,540 20,386,390 14,065,456 6,637,708	57 58 59 60 61 62 63	
748 702 880 940 324	116 84 80 1	6,269 5,025 3,870 3,860 1,686	274,009 344,847 198,420 166,260 87,837	1,728,288 1,235,146	16,364,607 16,759,138 14,478,785 11,676,879 4,311,116 3,838,292	44,230,280 35,305,969 29,987,847 25,518,652 8,535,498 12,538,786	25,546,837 21,945,999 13,495,159 9,305,779	18,692,443 13,959,970 16,492,688 16,212,873	8,356,784 7,781,739 4,434,013 1,186,659 193,683	2,259,538 2,074,631 1,894,947	648,362 1,617,481 2,166,471 452,900	30,813,339 23,563,569 26,078,747 19,609,021 7,498,077 7,030,604 3,597,397	64 65 66 67 68 69 70	
207 202 161	128 29 9	3,576 1,533 1,285	176,340 77,069 35,791	1,052,701 547,886	8,495,338 6,450,490 3,358,992	48,609,055 12,524,210 6,990,378	5,646,754 1,848,047 655,001	13,022,301 11,176,163 6,335,877	2,919,438 2,625,882 1,559,502	91,185 490,110 1,107,749	195,983 2,927,640 2,670,856	13,799,284 3,593,237 5,997,892	71 72 73	

\* Carding mills were not included in the report of the woolen industry of 1860, and are therefore not included in the figures for that year in the above table. There were 712 of these establishments, with a total capital of \$1,080,985, employing 1,276 hands, who received \$286,267. They used 5,230,651 pounds of wool, and produced 5,091,196 pounds of wool rolls, valued at \$2,403,513.

\* The details of the carpet industry were not given by states in 1850. The totals, however, have been added to the "total for the United States" in this table, the figures being as follows: Establishments, 116; capital, \$3,862,931; number of employees, 6,186; cost of materials used, \$3,075,592, and value of products, \$5,401,234.

\* This item was not fully reported at the census of 1850.

\* Includes reports from establishments distributed as follows: 1900—Delaware, 2. 1870—District of Columbia, 1. 1850—District of Columbia, 1.

TABLE 29.—WOOL MANUFACTURE (EXCLUDING HOSIERY AND KNIT GOODS): COMPARATIVE

STATES AND TERRITORIES.	Year.	Number of establishments. <sup>1</sup>	Capital.	SALARIED OFFICIALS, CLERKS, ETC.		AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES.				
				Number.	Salaries.	Total.		Men, 16 years and over.	Women, 16 years and over.	Children under 16 years.
						Average number.	Wages.			
Middle states—Continued:										
New Jersey.....	1870	36	\$1,524,200			1,522	\$493,054	709	552	261
	1880	45	640,200			986	226,788	608	378	
	1890	41	494,274			898		411	487	
	1840	31	314,050			427		427		
Pennsylvania.....	1900	353	57,696,913	900	\$1,067,815	37,550	\$14,045,869	18,412	15,220	3,918
	1890	467	52,021,256	940	914,378	38,473	14,117,254	18,572	16,189	3,712
	1880	548	31,898,226			32,989	10,162,244	16,688	11,936	4,965
	1870	672	20,615,413			21,573	7,607,489	10,831	7,714	3,028
	1860	407	5,211,510			8,484	2,016,381	5,488	2,996	
	1850	380	3,005,064			5,726		3,490	2,236	
	1840	235	1,510,546			2,930		2,930		
Delaware.....	<sup>2</sup> 1900									
	1890	3	450,974	9	12,298	288	91,097	139	110	39
	1880	5	352,559			261	108,504	171	59	31
	1870	11	384,500			399	115,137	186	110	163
	1860	4	117,000			114	27,564	76	38	
	1850	8	148,500			140		122	18	
	1840	2	107,000			88		83		
Maryland.....	<sup>3</sup> 1900	4	1,330,549	25	85,025	877	221,215	576	204	97
	1890	9	872,875	7	4,450	376	119,481	190	118	68
	1880	15	343,760			388	69,391	246	100	42
	1870	32	215,245			339	87,099	255	69	15
	1860	35	364,450			414	94,404	281	133	
	1850	38	244,000			362		202	100	
	1840	29	117,630			388		388		
Southern states.....	<sup>4</sup> 1900	214	7,501,498	214	234,875	4,700	979,188	1,902	2,037	761
	1890	222	7,894,776	325	226,117	5,392	1,338,729	2,303	2,421	668
	1880	447	2,994,617			2,645	499,634	1,408	745	402
	1870	589	3,327,952			2,888	575,529	1,831	669	388
	1860	115	1,744,100			2,205	418,368	1,429	776	
	1850	155	747,360			1,119		808	311	
	1840	116	304,650			488		488		
Virginia.....	1900	28	789,527	39	37,667	362	103,773	214	127	21
	1890	35	845,221	45	22,995	399	94,028	249	110	31
	1880	48	456,750			365	71,720	251	95	19
	1870	68	439,375			278	58,765	190	66	82
	1860	45	469,600			494	106,092	381	113	
	1850	121	392,640			668		478	190	
	1840	41	112,350			222		222		
West Virginia.....	1900	34	721,218	16	17,440	414	113,960	249	145	20
	1890	80	336,281	34	11,512	253	50,407	138	104	11
	1880	55	238,170			353	44,161	226	96	31
	1870	74	236,100			316	59,828	207	79	30
	<sup>5</sup> 1860									
	<sup>5</sup> 1850									
	<sup>5</sup> 1840									
North Carolina.....	1900	16	347,830	17	9,065	206	89,094	106	91	9
	1890	27	339,088	25	10,411	299	54,918	146	125	29
	1880	49	233,100			185	23,195	120	60	16
	1870	52	237,800			249	39,101	161	81	17
	1860	7	228,000			258	60,036	113	140	
	1850	1	18,000			30		15	15	
	1840	3	9,800			4		4		
South Carolina.....	<sup>4</sup> 1900									
	<sup>4</sup> 1890									
	1880	11	7,900			13	1,173	13		
	1870	15	25,000			58	3,815	32	18	8
	1860	1	50,000			92	11,400	37	55	
	<sup>5</sup> 1850									
	1840	3	4,300			6		6		
Georgia.....	1900	14	455,114	18	16,936	561	97,159	284	189	88
	1890	14	298,539	17	9,867	162	23,034	74	71	27
	1880	32	180,733			142	25,070	62	45	25
	1870	46	936,585			563	122,188	251	191	121
	1860	11	242,500			383	63,348	167	216	
	1850	3	68,000			78		40	38	
	1840	1	2,000			10		10		
Kentucky.....	1900	37	1,922,574	25	41,472	868	190,148	184	454	230
	1890	42	2,705,683	90	89,478	1,904	503,827	804	922	178
	1880	98	890,750			828	166,189	353	253	217
	1870	125	700,449			688	159,373	454	137	92
	1860	37	408,500			437	108,284	350	87	
	1850	25	249,820			318		256	62	
	1840	40	188,000			200		200		
Tennessee.....	1900	51	2,399,518	64	67,673	1,632	294,116	557	759	316
	1890	49	1,393,679	71	48,020	927	191,037	359	444	124
	1880	106	418,664			402	67,068	249	111	42
	1870	148	373,868			428	62,780	342	61	25
	1860	1	6,000			10	2,472	8	2	
	1850	4	10,900			17		15		
	1840	26	25,600			45		45		

<sup>1</sup> The number of establishments affords no clew to the growth or condition of the industry of wool manufacturing. This is due to the fact that in all censuses of the industry (except that of 1860) the custom carding mill has been counted as a wool factory, although it is not, in the modern use of the term, a factory, and ought not, therefore, to be included with the statistics of factory manufacture. The present census and that of 1890 have made such an elimination possible hereafter by a distinct statement of the statistics of custom carding mills.

<sup>2</sup> Includes reports from establishments distributed as follows: 1900—Delaware, 2. 1870—District of Columbia, 1. 1850—District of Columbia, 1.

## SUMMARY, BY STATES AND TERRITORIES ARRANGED GEOGRAPHICALLY, 1840 TO 1900—Continued.

MACHINERY.				Miscellaneous expenses.	Cost of materials used.	PRINCIPAL MATERIALS—QUANTITIES CONSUMED.						Value of products.	
Cards.	Combing machines.	Looms.	Spindles.			Wool in condition purchased.			Raw cotton, and cotton warp, and yarn, not made in mill (pounds).	Animal hair and fur and noils, not made in mill (pounds).	Shoddy not made in mill (pounds).		
						Total (pounds).	Foreign (pounds).	Domestic (pounds).					
98 61		776 270	26,769 10,361		\$1,618,753 596,895 548,367	2,856,525 1,448,800 1,510,289	480,347	2,376,178	407,398 239,500		27,000	\$2,616,461 1,197,694 1,164,446 440,710	74 75 76 77
1,262 1,254 1,120 1,429 488	357 188 121 29 4,334	17,265 22,101 16,789 13,265 4,334	641,657 474,618 393,387 340,114 108,326	\$4,833,061 3,221,842	45,137,649 45,178,677 38,740,330 28,010,301 5,674,197 3,282,718	73,162,801 69,387,219 56,751,865 31,723,147 7,703,249 7,560,379	40,453,005 27,877,283 14,623,020 6,014,170	32,709,796 41,509,936 42,128,845 25,708,977	37,640,684 44,218,488 27,771,271 11,504,684 4,337,000	24,142,239 14,253,852 2,940,522 7,879,203	6,874,350 14,282,953 15,463,878 7,879,203	71,878,503 72,393,132 53,886,250 45,221,795 10,901,767 5,321,866 2,319,061	78 79 80 81 82 83 84
15 13 30 8		229 126 227 76	7,306 4,306 8,766 1,000	27,404	295,605 448,285 392,614 75,807 204,172	531,193 836,883 546,137 140,000 393,000	35,369 203,206 12,455	495,829 633,677 533,732	314,500 65,100 185,000 100,000		95,890 346,778 96,930	482,022 665,258 576,067 153,035 261,000 104,700	85 86 87 88 89 90 91
47 30 30 61 44		179 114 136 160 66	15,828 11,150 6,580 12,348 2,480	54,181 14,442	667,036 424,855 331,724 241,224 280,431 165,568	1,938,908 886,200 822,550 521,741 1,087,772 430,300		1,938,908 786,200 822,550 500,291	637,730 32,050 37,589 37,885 73,000		58,326 40,000 297,200 1,000	1,218,378 579,516 598,308 441,596 685,757 295,140 285,900	92 93 94 95 96 97 98
373 385 549 908 232	15 4	3,291 3,788 1,315 1,322 296	123,869 106,541 47,989 50,311 16,544	299,046 362,477	3,493,870 4,000,966 2,786,023 2,715,827 1,034,730 760,203	7,948,193 8,730,576 6,021,980 5,912,589 5,042,682 2,448,026	512,883 357,790 85,000 1,200	7,435,310 8,372,786 5,936,980 6,911,389	7,235,610 5,395,513 1,455,408 616,459 421,800	1,550 61,741 500	1,060,468 1,188,847 279,647 2,762	5,588,416 6,700,545 3,958,571 4,278,311 2,840,550 1,293,642 321,357	99 100 101 102 103 104 105
52 54 54 116 50	2	221 212 154 137 121	14,322 12,882 8,488 6,236 7,574	22,780 43,972	391,659 375,175 383,080 317,800 389,204 488,899	1,184,231 975,745 862,812 742,200 1,131,000 1,554,110	9,000 25,367 5,000 1,200	1,175,281 950,378 857,812 741,000	101,434 105,112 104,170 27,260 10,000		124,851 88,585 60,500	627,581 609,809 577,988 488,552 717,827 841,013 147,792	106 107 108 109 110 111 112
53 41 72 132	1	258 153 179 120	14,180 7,164 8,081 6,387	32,649 15,418	350,753 202,801 245,843 307,051	843,959 600,823 602,399 673,008	3,000 5,001	840,959 595,822 602,399 673,003	262,417 31,209 4,000		135,912 9,632 33,819	567,300 328,800 356,986 475,763	113 114 115 116 117 118 119
25 35 57 78 23		161 169 30 97 20	5,334 10,990 2,374 2,806 1,000	14,527 14,758	204,961 198,358 255,707 166,497 151,005 18,950	577,750 449,260 576,145 355,693 504,500 80,000		577,750 398,500 496,145 355,693	96,763 282,860 118,464 10,000		38,365 40,000 12,444	289,506 308,946 303,160 298,638 291,000 23,750 3,900	120 121 122 123 124 125 126
11 25 10		9	350		19,455 22,238 60,000	48,950 55,696 250,000		48,950 55,696		1,300	700	24,075 84,459 80,000 1,000	127 128 129 130 131 132 133
31 20 42 72 30	3	503 119 88 395 20	11,008 3,552 2,224 14,465 1,480	22,480 10,887	280,295 95,999 165,065 268,176 260,475 30,392	272,678 208,992 366,274 620,937 1,008,600 153,816	5,200 32,000	267,478 176,992 366,274 620,937	1,718,472 87,815 134,418 165,000 142,600	1,550 19,867	111,357 10,000	491,001 173,245 239,390 471,623 464,420 88,750 3,000	134 135 136 137 138 139 140
53 100 154 208 83	9 4	533 1,661 513 322 94	27,695 40,346 14,110 10,509 3,990	59,894 184,848	974,417 1,631,860 852,405 831,628 510,902 205,287	2,747,742 2,823,377 1,638,663 1,639,367 1,452,500 678,900	393,917 57,037	2,353,825 2,771,340 1,638,663 1,639,367	1,437,569 2,892,500 667,444 275,250 170,700		144,124 785,940 117,151	1,431,684 2,721,968 1,264,988 1,312,458 845,226 818,819 151,246	141 142 143 144 145 146 147
99 30 98 167 177 1		1,239 925 167 80 500	38,654 19,938 6,860 3,614 500	86,141 56,268	874,359 760,036 423,054 503,737 5,225 1,675	1,523,442 1,448,486 883,338 1,030,153 10,000 6,200	101,766 187,625	1,421,676 1,260,861 883,338 1,080,153	8,189,821 1,462,967 180,416 101,449		487,089 197,690 55,433 2,662	1,517,194 1,216,419 620,724 696,844 8,100 6,310 14,290	148 149 150 151 152 153 154

<sup>3</sup>Maryland and the District of Columbia are classed in this table as Middle states for purposes of comparison.

<sup>4</sup>Includes reports from two establishments in South Carolina.

<sup>5</sup>No establishments reported.

<sup>6</sup>Included in "all other Southern states."

TABLE 29.—WOOL MANUFACTURE (EXCLUDING HOSIERY AND KNIT GOODS): COMPARATIVE

STATES AND TERRITORIES.	Year.	Number of establishments. <sup>1</sup>	Capital.	SALARIED OFFICIALS, CLERKS, ETC.		AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES.				
				Number.	Salaries.	Total.		Men, 16 years and over.	Women, 16 years and over.	Children, under 16 years.
						Average number.	Wages.			
Southern states—Continued.										
Alabama.....	1900	12	\$153,303	4	\$3,640	118	\$17,695	25	90	3
	1890	6	18,325	3	1,025	13	2,100	8	5	.....
	1880	14	28,900	.....	.....	18	3,037	13	5	.....
	1870	14	22,375	.....	.....	41	4,881	38	1	2
	1860	6	140,000	.....	.....	198	34,116	95	103	.....
	<sup>1</sup> 1850	.....	.....	.....	.....	.....	.....	.....	.....	.....
	<sup>2</sup> 1840	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mississippi.....	1900	4	315,700	5	10,166	302	55,192	146	111	45
	1890	7	1,553,455	13	11,280	1,069	294,990	402	443	221
	1880	8	331,500	.....	.....	218	53,100	111	61	46
	1870	11	195,250	.....	.....	116	28,800	34	31	51
	1860	4	75,500	.....	.....	235	22,620	202	83	.....
	<sup>1</sup> 1850	.....	.....	.....	.....	.....	.....	.....	.....	.....
	<sup>2</sup> 1840	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arkansas.....	1900	13	43,525	3	903	27	5,158	14	11	2
	1890	6	27,435	9	2,950	22	3,281	7	12	3
	1880	25	85,550	.....	.....	90	13,226	62	21	7
	1870	13	32,500	.....	.....	31	6,870	29	.....	2
	<sup>1</sup> 1860	.....	.....	.....	.....	.....	.....	.....	.....	.....
	<sup>2</sup> 1850	.....	.....	.....	.....	.....	.....	.....	.....	.....
	<sup>3</sup> 1840	.....	.....	.....	.....	.....	.....	.....	.....	.....
Texas.....	1900	8	285,663	10	15,763	134	40,674	76	34	24
	1890	4	871,270	17	18,115	342	120,680	125	176	41
	1880	1	97,500	.....	.....	36	25,700	28	8	.....
	1870	20	97,250	.....	.....	100	20,278	80	16	4
	1860	2	60,000	.....	.....	43	7,680	36	7	.....
	1850	1	8,000	.....	.....	8	.....	4	4	.....
	<sup>1</sup> 1840	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other Southern states <sup>a</sup> .....	1900	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1890	2	5,800	1	364	2	427	2	.....	.....
	1880	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1870	3	34,500	.....	.....	30	8,900	23	8	4
	1860	1	75,000	.....	.....	60	6,720	40	20	.....
	<sup>1</sup> 1850	.....	.....	.....	.....	.....	.....	.....	.....	.....
	<sup>2</sup> 1840	.....	.....	.....	.....	.....	.....	.....	.....	.....
Western states.....	1900	194	12,156,823	401	450,939	5,861	1,788,245	2,084	2,861	316
	1890	287	13,254,918	513	391,937	7,207	2,020,607	3,261	3,517	429
	1880	505	8,877,427	.....	.....	7,227	1,697,463	3,816	2,857	1,064
	1870	906	14,897,772	.....	.....	10,172	2,802,135	0,212	2,809	1,161
	1860	280	1,727,241	.....	.....	1,873	481,812	1,435	438	.....
	1850	205	1,351,490	.....	.....	1,811	.....	1,341	470	.....
	1840	196	681,364	.....	.....	1,122	.....	1,122	.....	.....
Ohio.....	1900	38	2,709,986	34	94,805	1,234	388,848	408	797	29
	1890	69	2,479,872	106	85,224	1,325	363,802	581	590	154
	1880	123	1,388,840	.....	.....	1,432	279,614	773	445	214
	1870	225	3,066,969	.....	.....	2,329	574,164	1,351	710	268
	1860	122	662,000	.....	.....	753	185,268	567	186	.....
	1850	130	870,220	.....	.....	1,201	.....	903	298	.....
	1840	120	537,985	.....	.....	935	.....	935	.....	.....
Michigan.....	1900	17	920,609	29	27,769	512	170,568	323	189	.....
	1890	33	998,037	44	25,063	536	156,740	284	221	31
	1880	39	558,800	.....	.....	347	76,240	203	114	30
	1870	54	1,011,050	.....	.....	687	202,813	408	208	51
	1860	16	103,950	.....	.....	126	80,672	77	49	.....
	1850	15	94,000	.....	.....	129	.....	78	51	.....
	1840	4	34,120	.....	.....	37	.....	37	.....	.....
Indiana.....	1900	22	2,069,232	72	77,443	1,165	341,472	495	624	46
	1890	46	2,969,356	108	87,829	2,039	522,039	810	1,117	112
	1880	81	2,273,705	.....	.....	1,741	462,651	346	587	308
	1870	175	3,821,913	.....	.....	2,469	726,113	1,450	711	308
	1860	79	464,341	.....	.....	533	150,276	436	97	.....
	1850	33	171,545	.....	.....	246	.....	189	57	.....
	1840	37	77,954	.....	.....	103	.....	103	.....	.....
Wisconsin.....	1900	36	2,414,652	67	88,890	1,066	317,554	477	463	126
	1890	33	2,496,377	69	63,570	1,013	297,169	454	558	11
	1880	48	1,849,954	.....	.....	847	214,993	426	378	43
	1870	67	1,247,389	.....	.....	802	230,706	519	211	72
	1860	15	100,600	.....	.....	105	27,086	74	31	.....
	1850	9	31,225	.....	.....	25	.....	25	.....	.....
	<sup>1</sup> 1840	.....	.....	.....	.....	.....	.....	.....	.....	.....
Illinois.....	1900	14	1,610,425	57	77,623	727	222,457	398	294	35
	1890	23	1,649,918	49	40,783	865	272,997	433	405	27
	1880	53	1,327,553	.....	.....	1,042	296,225	527	365	150
	1870	109	2,962,448	.....	.....	1,736	535,185	1,040	468	228
	1860	25	210,100	.....	.....	166	46,180	132	34	.....
	1850	16	154,500	.....	.....	178	.....	124	54	.....
	1840	16	26,205	.....	.....	34	.....	34	.....	.....
Minnesota.....	1900	19	762,825	20	23,450	300	90,662	160	119	21
	1890	21	563,771	25	19,025	316	101,942	169	146	1
	1880	13	190,500	.....	.....	229	46,108	106	73	50
	1870	10	246,600	.....	.....	146	45,592	77	60	9
	<sup>1</sup> 1860	.....	.....	.....	.....	.....	.....	.....	.....	.....
	<sup>2</sup> 1850	.....	.....	.....	.....	.....	.....	.....	.....	.....
	<sup>3</sup> 1840	.....	.....	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup>The number of establishments affords no clew to the growth or condition of the industry of wool manufacturing. This is due to the fact that in all censuses of the industry (except that of 1860) the custom carding mill has been counted as a wool factory, although it is not, in the modern use of the term, a factory, and hereafter by a distinct statement of the statistics of custom carding mills.

## SUMMARY BY STATES AND TERRITORIES ARRANGED GEOGRAPHICALLY, 1840 TO 1900—Continued.

MACHINERY.				Miscellaneous expenses.	Cost of materials used.	PRINCIPAL MATERIALS—QUANTITIES CONSUMED.					Value of products.				
Cards.	Combing machines.	Looms.	Spindles.			Wool in condition purchased.			Raw cotton, and cotton warp, and yarn, not made in mill (pounds).	Animal hair and fur and noils, not made in mill (pounds).	Shoddy, not made in mill (pounds).				
						Total (pounds).	Foreign (pounds).	Domestic (pounds).							
8		72	100	\$15,193	\$58,197	129,041		129,041	176,562			\$94,571			
6		12	288	419	10,997	10,569		10,569	7,500		20,000	17,150			
15		10	160		49,861	135,366		135,366	10,000			63,745			
24		2	580		57,338	196,500		196,500	2,000			89,998			
14		20	1,000		80,790	264,435			5,000			191,474			
26		180	8,916	17,817	108,308	244,434		244,434	83,060			172,908			
31		876	9,196	18,054	508,039	1,565,824		1,565,824	410,000		86,000	924,185			
15		121	3,734		211,646	494,033		494,033	205,896			299,605			
17		80	844		79,566	154,790		154,790	32,700			147,823			
13		21	1,000		119,849	270,597			75,600			158,507			
16		40	1,000	398	28,598	129,637		129,637	14,000			42,401			
7		24	735	752	28,030	67,500		67,500	5,550			88,890			
29		41	1,360		85,972	189,000		189,000	30,600		300	127,430			
17					55,782	115,330		115,330				78,690			
4		94	2,600	17,428	117,327	291,979		291,979	86,700		19,260	196,340			
9		135	1,900	17,393	188,607	572,400		572,400	108,000		1,000	359,280			
2		12	600		44,435	175,000		175,000				80,600			
29		30	1,070		86,817	278,045		278,045				162,968			
4					25,980	81,900			18,000			88,796			
					10,000	30,000						15,000			
2		2	50	278	1,064	2,600		2,600	1,000			2,493			
18		100	4,000		19,197	50,875		50,875	1,500			31,295			
4					31,300	69,150						45,200			
468	14	2,813	176,407	722,046	5,889,712	18,996,587	1,400,286	17,596,351	2,145,184	85,854	958,484	9,992,370			
574	15	3,138	176,869	814,072	7,125,149	22,859,293	1,743,013	21,116,280	2,956,355	10,762	943,658	11,073,841			
807	8	2,786	156,012		7,087,326	17,702,458	195,000	17,507,458	1,508,482	80,600	660,989	10,722,024			
1,701		3,984	226,638		10,006,478	20,681,163	157,825	20,473,338	908,027		5,225	18,607,375			
888		882	18,989		1,226,844	3,246,751						2,269,806			
					909,808	2,858,990						1,770,685			
												778,448			
78	5	674	80,400	242,007	1,681,166	3,262,140	24,825	3,237,315	647,847	6,660	217,940	2,826,321			
104	5	712	82,263	186,050	1,398,892	3,500,244	474,764	3,025,480	357,152	8,900	199,680	2,280,002			
182	2	688	35,200		1,168,929	2,695,424	165,000	2,530,424	310,824	80,000	134,068	1,779,439			
394		1,052	52,789		2,119,869	3,972,284	62,200	3,910,084	175,464			3,407,699			
173		96	5,827		482,994	1,180,751						843,516			
					578,423	1,657,726						1,111,027			
												685,767			
52		159	14,707	49,676	641,183	2,360,454	958,981	1,406,473	58,650		119,261	996,836			
54		168	13,559	60,280	608,374	2,033,321	408,026	1,625,295	2,440		269,148	988,652			
51		167	10,688		356,614	869,025		869,025	5,310		37,103	481,517			
116		232	15,650		659,700	1,391,889		1,391,889	3,550			1,204,868			
14		20	1,000		69,010	163,100						139,246			
					43,402	162,250						90,242			
												9,784			
92		919	46,864	112,428	970,562	3,552,301	400,000	3,152,301	848,443	1,194	88,235	1,658,965			
135	4	1,006	46,690	235,503	1,880,515	6,324,884	632,833	5,692,051	1,961,374	600	154,303	3,036,682			
160	1	814	36,886		1,823,300	4,360,456	10,000	4,350,456	881,776		345,656	2,729,347			
346		1,180	57,083		2,684,315	5,020,618	80,157	4,940,461	513,595			4,329,711			
112		177	8,266		352,362	940,000						649,771			
					120,486	413,350						205,802			
												58,867			
72	9	296	31,744	128,005	1,168,397	4,523,001	18,096	4,504,905	163,754		308,033	1,864,420			
63	6	268	24,802	124,124	1,117,013	3,125,572	164,090	2,961,482	111,323	6,282	196,274	1,844,361			
75		220	16,689		892,793	2,066,188		2,066,188	50,955	500	35,235	1,480,069			
135		226	16,445		688,198	1,642,637	15,468	1,627,169				1,258,417			
19		20	1,000		85,743	265,000						172,720			
					32,630	134,200						87,992			
46		184	16,156	80,086	550,320	1,439,452		1,439,452	66,717	78,000	128,244	1,039,087			
57		323	18,745	110,159	789,810	2,566,621		2,566,621	319,179		67,253	1,299,506			
106		374	20,992		1,882,798	3,003,740	59,000	3,003,740	114,631		83,007	1,896,460			
250		683	36,888		1,701,323	3,560,829		3,560,829	151,660			2,849,249			
37		20	1,000		112,697	327,800						193,888			
					115,367	396,964						205,672			
												9,640			
38		143	9,524	36,178	272,483	1,285,311	3,334	1,281,977	3,525		8,475	496,812			
37		125	7,510	46,211	309,378	1,358,290		1,358,290			4,000	539,995			
21		50	3,852		155,867	557,580	20,000	537,580	6,865		18,000	253,373			
19		39	2,664		108,540	254,857		254,857				219,862			
												236			
												287			
												288			

\*No establishments reported.

\*Includes establishments distributed as follows: 1900-1890—Louisiana, 1; South Carolina, 1. 1870—Louisiana, 2; Florida, 1. 1860—Louisiana, 1.



## MANUFACTURES.

TABLE 29.—WOOL MANUFACTURE (EXCLUDING HOSIERY AND KNIT GOODS): COMPARATIVE

STATES AND TERRITORIES.	Year.	Number of establishments. <sup>1</sup>	Capital.	SALARIED OFFICIALS, CLERKS, ETC.		AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES.				
				Number.	Salaries.	Total.		Men, 16 years and over.	Women, 16 years and over.	Children, under 16 years.
						Average number.	Wages.			
Western states—Continued.										
Iowa.....	1900	12	\$494,074	26	\$16,611	256	\$64,596	126	128	2
	1890	14	694,600	88	28,850	340	104,300	150	174	16
	1880	24	553,500			499	117,792	807	182	60
	1870	85	1,440,484			1,088	269,432	685	298	110
	1860	12	82,500			120	23,652	96	24	
	1850	1	10,000			7		7		
	<sup>2</sup> 1840									
Missouri.....	1900	25	490,747	18	20,028	237	63,314	139	79	19
	1890	85	720,616	64	25,288	456	97,122	209	188	59
	1880	98	726,150			689	109,877	412	144	133
	1870	156	716,524			718	137,408	548	85	85
	1860	11	103,750			70	19,728	58	17	
	1850	1	20,000			25		15	10	
	1840	9	5,100			13		13		
Kansas.....	<sup>3</sup> 1900									
	<sup>3</sup> 1890									
	1880	5	181,925			124	25,825	66	40	18
	1870	9	96,000			91	80,682	56	24	11
	<sup>2</sup> 1860									
	<sup>2</sup> 1850									
	<sup>2</sup> 1840									
Utah.....	1900	6	454,981	14	10,050	194	69,681	100	65	29
	1890	9	579,209	15	13,505	259	90,651	160	95	14
	1880	11	382,000			277	68,108	150	79	48
	1870	15	223,400			106	48,040	68	39	9
	<sup>2</sup> 1860									
	<sup>2</sup> 1850									
	<sup>2</sup> 1840									
All other Western states <sup>4</sup> .....	1900	5	229,292	14	13,370	170	64,093	68	103	9
	1890	4	103,112	5	2,800	53	13,846	21	28	4
	1880									
	1870	1	65,000			20	2,000	20		
	<sup>2</sup> 1860									
	<sup>2</sup> 1850									
	<sup>2</sup> 1840									
Pacific states.....	1900	16	2,226,294	47	58,280	1,102	368,620	687	363	52
	1890	14	3,969,065	86	74,865	1,580	388,606	1,081	462	47
	<sup>6</sup> 1880	20	2,283,300			1,080	424,406	892	149	89
	1870	14	2,174,200			888	342,413	713	39	86
	1860	2	170,000			90	49,800	67	23	
	<sup>2</sup> 1850									
	<sup>2</sup> 1840									
Oregon.....	1900	11	1,175,820	29	32,820	672	208,695	423	216	33
	1890	6	1,350,585	44	32,775	358	142,533	201	134	23
	1880	10	566,800			216	86,088	166	83	17
	1870	9	389,200			179	112,213	129	8	42
	1860	1	70,000			80	16,200	27	3	
	<sup>2</sup> 1850									
	<sup>2</sup> 1840									
California.....	1900	5	1,050,474	18	25,460	430	159,825	264	147	19
	1890	8	2,618,480	42	41,590	1,222	246,068	880	318	24
	1880	9	1,676,500			835	334,318	708	108	19
	1870	5	1,785,000			659	230,200	584	31	44
	1860	1	100,000			60	33,600	40	20	
	<sup>2</sup> 1850									
	<sup>2</sup> 1840									

<sup>1</sup> The number of establishments affords no clew to the growth or condition of the industry of wool manufacturing. This is due to the fact that in all censuses of the industry (except that of 1890) the custom carding mill has been counted as a wool factory, although it is not, in the modern use of the term, a factory, and ought not, therefore, to be included with the statistics of factory manufacture. The present census and that of 1890 have made such an elimination possible hereafter by a distinct statement of the statistics of custom carding mills.

<sup>2</sup> No establishments reported.

## SUMMARY, BY STATES AND TERRITORIES ARRANGED GEOGRAPHICALLY, 1840 TO 1900—Continued.

MACHINERY.				Miscellaneous expenses.	Cost of materials used.	PRINCIPAL MATERIALS—QUANTITIES CONSUMED.					Value of products.		
Cards.	Combing machines.	Looms.	Spindles.			Wool in condition purchased.			Raw cotton, and cotton warp, and yarn not made in mill (pounds).	Animal hair and fur and noils, not made in mill (pounds).		Shoddy, not made in mill (pounds).	
						Total (pounds).	Foreign (pounds).	Domestic (pounds).					
26		112	9,552	\$16,831	\$175,426	773,053		773,053	4,603		2,756	\$296,500	239
36		168	10,828	40,060	505,503	1,880,532		1,880,232	10,610		46,000	695,218	240
56		166	11,025		435,747	1,407,510	300	1,407,510	18,597		865	679,904	241
199		374	31,462		998,073	2,273,428		2,273,428	28,148		1,225	1,647,606	242
13		20	1,000		67,298	168,700						127,640	243
					3,500	14,500						18,000	244
												800	245
36		196	7,762	21,067	206,579	464,946		464,946	279,233		80,779	348,974	246
52		261	12,984	29,775	311,881	1,052,229	4,000	1,048,229	155,395		7,000	548,457	247
126		193	12,622		681,711	1,811,635		1,811,635	115,227		4,000	930,961	248
253		183	10,371		849,313	1,979,671		1,979,671	25,500			1,256,213	249
15		29	896		56,745	191,400						143,025	250
					16,000	80,000						50,000	251
												18,750	252
9		41	2,636		107,251	364,000		364,000	23,200			253	258
24		29	1,616		86,105	200,000		200,000	1,800		2,000	211,525	254
												153,150	255
													256
													257
													258
													259
17		94	6,974	17,354	121,828	744,469		744,469	64,212			222,343	260
31		99	7,960	27,155	133,864	800,500		800,500	38,632		1,761	338,534	261
21		114	5,422		147,225	566,900		566,900	31,697		1,000	279,424	262
19		31	1,430		98,272	276,000		276,000	8,320			199,600	263
													264
													265
													266
6		36	2,724	18,414	101,818	591,460		591,460	8,700		3,000	242,112	267
5		83	1,528	4,765	45,419	217,100		217,100	250			101,931	268
													269
													270
													271
													272
													273
65		317	23,119	152,584	875,300	4,043,265		4,043,265	174,819		113,798	1,585,178	274
91		387	24,650	255,230	1,116,418	5,065,619	145,000	4,920,619	213,864		58,111	1,939,965	275
87		298	23,388		1,277,025	4,720,100	20,000	4,700,100	234,026	25,000	95,150	2,253,888	276
67		275	8,200		835,736	2,871,400		2,871,400	100,000		1,800	1,608,611	277
10		45	780		77,000	550,000						235,000	278
													279
													280
35		175	12,187	74,323	465,855	1,997,954		1,997,954	107,384		78,084	897,824	281
21		95	6,052	86,906	327,502	1,366,148		1,366,148	106,546		5,000	614,932	282
21		56	4,248		227,486	985,250		985,250	6,000		1,000	549,030	283
21		90	4,320		227,595	943,400		943,400				505,857	284
4		15	280		27,000	150,000						85,000	285
													286
													287
30		142	10,932	78,261	409,445	2,015,311		2,015,311	67,435		40,714	637,354	288
70		202	18,598	168,324	788,916	3,099,471	145,000	3,554,471	107,318		53,111	1,325,033	289
60		230	18,740		997,539	3,574,850	20,000	3,554,850	228,026	25,000	94,150	1,634,588	290
46		185	3,880		608,141	1,028,000		1,028,000	100,000		1,800	1,102,754	291
6		30	500		50,000	400,000						150,000	292
													293
													294

<sup>3</sup>Included in "all other Western states."<sup>4</sup>Includes establishments distributed as follows: 1900—Colorado, 1; Idaho, 1; Kansas, 1; North Dakota, 1; Wyoming, 1. 1890—Idaho, 1; Kansas, 1; South Dakota, 2. 1870—New Mexico, 1.<sup>5</sup>Includes the report from an establishment in Washington.

## MANUFACTURES.

TABLE 30.—WOOL MANUFACTURES (EXCLUDING HOSIERY AND KNIT GOODS): SUMMARY BY CLASSES, 1900.

		ESTABLISHMENTS: COMMENCEMENT, NUMBER, AND CHARACTER OF ORGANIZATION.					CAPITAL.				
		Total number.	Individual.	Firm and limited partnership.	Incorporated company.	Miscellaneous.	Total.	Land.	Buildings.	Machinery, tools, and implements.	Cash and sundries.
Total.....		1,414	528	429	456	1	\$310,179,749	\$17,936,483	\$38,074,295	\$69,215,841	\$184,953,130
Worsted goods .....		186	43	60	83	.....	132,163,110	6,781,982	13,279,427	27,026,759	85,129,942
Woolen goods .....		1,085	426	298	311	.....	124,386,262	7,948,126	17,760,864	28,703,473	69,874,299
Carpets and rugs .....		133	48	49	35	1	44,449,299	2,641,774	5,717,961	11,495,056	24,594,508
Felt goods .....		36	7	7	22	.....	7,125,276	606,601	1,115,961	1,745,933	3,750,781
Wool hats.....		24	4	15	5	.....	2,050,802	108,000	200,582	244,620	1,497,600

SALARIED EMPLOYEES.											
	Proprietors and firm members.	Total.		Officers of corporations.		General superintendents, managers, clerks, and salesmen.					
		Number.	Salaries.	Number.	Salaries.	Total.		Men.		Women.	
						Number.	Salaries.	Number.	Salaries.	Number.	Salaries.
Total.....	1,110	4,495	\$6,455,495	606	\$1,569,246	3,889	\$4,886,249	3,539	\$4,715,986	350	\$170,263
Worsted goods .....	127	1,369	2,342,218	117	440,492	1,252	1,901,728	1,130	1,837,907	122	68,819
Woolen goods .....	822	2,246	2,934,048	402	847,208	1,844	2,086,840	1,664	2,001,528	180	85,312
Carpets and rugs .....	111	687	881,398	52	173,931	635	707,467	607	693,532	28	13,935
Felt goods .....	13	136	281,065	28	92,110	108	138,955	94	133,278	14	5,577
Wool hats.....	37	57	66,786	7	15,505	50	51,261	44	49,741	6	1,520

WAGE-EARNERS, INCLUDING PIECEWORKERS.										
	Total.				Men, 16 years and over.		Women, 16 years and over.		Children, under 16 years.	
	Greatest number employed at any one time during the year.	Least number employed at any one time during the year.	Average number.	Wages.	Average number.	Wages.	Average number.	Wages.	Average number.	Wages.
Total .....	181,719	139,915	159,108	\$57,933,817	83,371	\$36,412,872	64,141	\$19,540,423	11,590	\$1,971,522
Worsted goods .....	81,511	60,489	68,893	24,757,006	40,601	16,913,731	24,535	7,218,087	3,757	625,158
Woolen goods .....	64,086	49,848	57,008	20,092,738	25,595	11,300,071	25,829	7,881,109	5,584	961,558
Carpets and rugs .....	30,175	26,784	28,411	11,121,383	13,860	6,651,180	12,468	4,113,142	2,088	357,061
Felt goods .....	3,085	2,335	2,688	1,024,885	1,957	820,637	658	191,000	73	13,108
Wool hats .....	2,912	1,509	2,108	937,855	1,358	727,253	651	195,995	99	14,607

PERSONS EMPLOYED: WAGE-EARNERS, INCLUDING PIECEWORKERS.												
Average number employed during each month.												
Men, 16 years and over.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Total.....	81,027	81,110	82,900	83,064	82,763	81,702	81,269	82,757	84,623	86,224	86,610	86,333
Worsted goods .....	24,947	24,292	24,876	25,299	25,389	25,047	25,161	25,616	26,022	26,719	26,728	27,044
Woolen goods .....	39,214	39,772	40,930	41,092	40,361	39,532	38,839	39,714	40,898	41,900	42,602	42,438
Carpets and rugs .....	13,828	13,915	13,865	13,428	13,733	13,837	13,923	13,916	14,018	14,048	14,100	13,659
Felt goods .....	1,929	1,931	1,976	1,912	1,921	1,898	1,901	2,003	2,060	2,011	1,975	1,977
Wool hats .....	1,109	1,200	1,253	1,333	1,309	1,388	1,445	1,508	1,635	1,546	1,305	1,255

PERSONS EMPLOYED: WAGE-EARNERS, INCLUDING PIECEWORKERS—continued.												
Average number employed during each month—Continued.												
Women, 16 years and over.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Total.....	61,521	62,201	63,314	63,351	63,741	63,267	62,951	63,699	64,891	66,514	67,387	66,935
Worsted goods .....	24,100	24,578	24,947	25,322	25,691	25,675	25,493	25,899	26,072	26,882	27,596	27,753
Woolen goods .....	24,001	23,964	24,676	24,750	24,491	23,934	23,503	23,792	24,658	25,454	25,720	26,477
Carpets and rugs .....	12,285	12,521	12,408	12,082	12,331	12,358	12,497	12,561	12,604	12,641	12,732	12,436
Felt goods .....	659	640	665	634	654	663	672	646	662	669	662	670
Wool hats.....	476	498	528	563	574	627	786	861	895	868	567	569

TABLE 30.—WOOL MANUFACTURES (EXCLUDING HOSIERY AND KNIT GOODS): SUMMARY BY CLASSES, 1900—Cont'd.

PERSONS EMPLOYED: WAGE-EARNERS, INCLUDING PIECEWORKERS—Continued.												
Average number employed during each month—Continued.												
Children, under 16 years.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Total.....	11,081	11,864	11,435	11,437	11,533	11,457	11,579	11,619	11,837	11,814	11,999	12,047
Worsted goods.....	5,323	5,477	5,429	5,483	5,567	5,503	5,563	5,577	5,700	5,721	5,829	5,846
Woolen goods.....	3,664	3,644	3,757	3,738	3,709	3,699	3,731	3,732	3,818	3,840	3,922	3,930
Carpets and rugs.....	1,991	2,093	2,091	2,048	2,088	2,088	2,115	2,118	2,121	2,068	2,079	2,111
Felt goods.....	69	68	69	74	70	76	73	70	74	78	82	78
Wool hats.....	84	82	89	94	99	96	107	127	124	117	87	82

SKILLED OPERATIVES (AVERAGE NUMBER).										MACHINERY.				
Spinners.			Weavers.			Knit- ters.	Finishers.			Sets of woolen cards.	Combining machines.			
Men, 16 years and over, number.	Women, 16 years and over, number.	Children, under 16 years, number.	Men, 16 years and over, number.	Women, 16 years and over, number.	Children, under 16 years, number.	Men, 16 years and over, number.	Men, 16 years and over, number.	Women, 16 years and over, number.	Children, under 16 years, number.		Total number.	Of Amer- ican man- ufacture.	Of for- eign man- ufacture.	
Total.....	8,168	7,139	2,559	24,258	22,567	199	7	8,296	6,938	341	6,605	1,451	937	1,114
Worsted goods.....	1,995	4,852	1,580	7,426	6,194	62	—	2,789	2,932	78	685	1,194	214	980
Woolen goods.....	5,619	1,137	790	10,881	11,812	103	7	4,625	2,793	180	5,010	123	77	46
Carpets and rugs.....	486	1,150	185	5,886	4,443	34	—	616	1,018	80	468	134	46	88
Felt goods.....	68	—	4	115	118	—	—	149	95	3	302	—	—	—
Wool hats.....	—	—	—	—	—	—	—	217	100	—	140	—	—	—

MACHINERY—continued.													
Spindles.							Looms on woolen or worsted goods.						
Total number.	Spinning.			Doubling.			Total number.	Broad (50 inches or over—reed space).		Narrow (50 inches or over—reed space).		Hand.  On wool- en or worsted goods.	
	Woolen.	Worsted.	Cotton.	Woolen.	Worsted.	Cotton.		On woolen goods.	On worsted goods.	On woolen goods.	On worsted goods.		
Total.....	3,611,099	1,935,527	980,835	147,524	95,501	344,420	7,292	63,294	22,364	16,710	14,220	9,920	80
Worsted goods.....	1,871,026	138,504	842,730	91,152	16,522	282,914	4,204	26,372	2,240	14,099	950	8,481	2
Woolen goods.....	1,908,581	1,714,952	40,914	50,276	74,781	24,848	860	34,881	19,056	1,994	12,656	1,143	32
Carpets and rugs.....	209,206	63,836	97,191	6,096	8,197	36,658	2,228	1,757	797	17	602	295	46
Felt goods.....	24,286	23,235	—	—	1,051	—	—	284	271	—	12	1	—
Wool hats.....	—	—	—	—	—	—	—	—	—	—	—	—	—

MACHINERY—continued.																
Looms on carpets and rugs.																
Total num- ber.	Ingrain.		Broad ingrain.		Venetian.	Tapestry Brussels.	Tapes- try vel- vet.	Body Brus- sels.	Wilton.	Axmin- ster.	Mo- quette.	Wilton rug.	Tapes- try rug.	Smyrna rug.		
	Hand.	Power.	Hand.	Power.	Power.	Power.	Power.	Power.	Power.	Power.	Power.	Power.	Power.	Power.		
Total.....	10,896	99	4,386	1	246	80	1,094	737	647	507	611	150	22	8	955	1,358
Woolen goods.....	142	7	32	—	—	—	—	—	—	—	—	—	—	—	—	—
Carpets and rugs.....	10,754	92	4,354	1	246	80	1,094	737	103 544	507	611	150	22	8	955	1,358

TABLE 30.—WOOL MANUFACTURES (EXCLUDING HOSIERY AND KNIT GOODS): SUMMARY BY CLASSES, 1900—Cont'd.

MACHINERY—continued.											
	Formers for fur hats.	Braiders.	Total number.	Knitting machines.							
				Spring beard needle.		Latch needle.					
				Circular, ribbed.	Circular, plain.	Flat, plain.	Full fashioned, flat ribbed.	Circular, ribbed.	Circular, plain.	Circular, hosiery, automatic.	Hand and other variety, plain.
Total.....	504	14,958	157	4	110	7	5	11	16	2	2
Worsted goods.....		2,830									
Woolen goods.....	500	12,128	157	4	110	7	5	11	16	2	2
Carpets and rugs.....											
Felt goods.....											
Wool hats.....	4										

	MISCELLANEOUS EXPENSES.						MATERIALS USED.			
	Total.	Rent of works.	Taxes, not including internal revenue.	Rent of offices, interest, insurance, etc.	Contract work.	Aggregate cost.	Purchased in raw state.			
							Total cost.	Wool.		Foreign in condition purchased.
								Pounds.	Cost.	
Total.....	\$17,829,932	\$845,778	\$1,161,596	\$13,573,336	\$1,749,222	\$181,159,127	\$97,171,554	186,434,961	\$28,835,967	
Worsted goods.....	6,767,611	286,920	380,210	5,121,974	978,507	77,075,222	46,274,155	57,263,393	15,159,048	
Woolen goods.....	7,268,634	365,171	566,452	5,880,517	456,494	71,011,956	38,838,138	22,521,954	4,598,624	
Carpets and rugs.....	2,751,879	162,657	178,469	2,096,582	314,221	27,228,719	8,783,166	51,761,523	8,077,420	
Felt goods.....	356,164	16,140	28,391	311,683		3,801,023	2,899,926	4,248,880	782,221	
Wool hats.....	185,641	14,890	8,074	162,650		2,042,202	876,169	639,211	218,651	

MATERIALS USED—continued.												
Purchased in raw state—Continued.												
Wool—Continued.				Animal hair and fur.				Cotton.				
Domestic in condition purchased.		Foreign and domestic, etc., scoured.	Camel, alpaca, and vicuña hair.	Mohair		Buffalo, cow, and other animal hair and fur.						
Pounds.	Cost.			Pounds.	Cost.			Pounds.	Cost.	Pounds.	Cost.	Bales.
Total.....	257,934,562	\$61,057,383	238,632,452	2,536,296	\$530,225	3,048,140	\$1,439,288	29,085,363	\$1,821,559	99,054	43,414,502	\$3,487,132
Worsted goods.....	122,714,543	29,147,093	103,338,616	1,742,573	391,332	1,905,967	972,207	855,898	79,960	12,079	5,276,751	524,515
Woolen goods.....	127,678,662	29,899,065	89,366,903	238,247	34,337	1,117,179	459,831	19,679,181	1,090,796	80,725	34,967,959	2,755,435
Carpets and rugs.....	109,811	26,687	37,560,231	457,476	71,256	25,000	7,250	5,707,281	471,104	3,813	1,943,942	129,449
Felt goods.....	5,357,383	1,414,216	6,468,097	98,000	33,300			2,721,521	92,503	2,437	1,235,850	77,683
Wool hats.....	2,074,163	570,322	1,898,005					121,482	87,196			

MATERIALS USED—continued.											
Purchased in partially manufactured form.											
Total cost.	Materials not made in mill.										
	Shoddy.		Wool waste and noils.		Camel, alpaca, and vicuña noils.		Mohair noils.		Tops.		
	Pounds.	Cost.	Pounds.	Cost.	Pounds.	Cost.	Pounds.	Cost.	Pounds.	Cost.	
Total.....	\$62,219,766	84,496,508	\$4,195,744	21,114,539	\$5,034,204	326,496	\$60,933	114,762	\$25,749	5,865,566	\$3,022,974
Worsted goods.....	23,250,097	1,807,827	303,644	1,885,867	558,494	55,679	12,856			5,260,775	2,701,532
Woolen goods.....	21,250,276	31,228,940	8,767,192	13,473,154	3,249,932	185,909	44,450	113,562	25,587	305,333	163,964
Carpets and rugs.....	15,945,010	744,233	43,555	2,238,946	301,944	84,908	8,627	1,200	162	200,000	96,000
Felt goods.....	892,973	712,373	80,737	2,653,590	552,992					99,458	61,423
Wool hats.....	881,410	3,135	616	862,982	370,792						

TABLE 30.—WOOL MANUFACTURES (EXCLUDING HOSIERY AND KNIT GOODS): SUMMARY BY CLASSES, 1900—Cont'd.

MATERIALS USED—continued.										
Purchased in partially manufactured form—Continued.										
Yarns not made in mill.										
Woolen.		Worsted.		Merino.		Cotton.		Silk.		
Pounds.	Cost.	Pounds.	Cost.	Pounds.	Cost.	Pounds.	Cost.	Pounds.	Cost.	
Total .....	38,903,178	\$7,705,797	34,377,736	\$23,068,988	3,904,515	\$709,894	55,217,904	\$9,568,864	70,073	\$394,001
Worsted goods .....	2,847,091	1,402,189	18,896,863	14,704,172	419,434	147,891	13,420,590	3,032,039	26,418	144,971
Woolen goods .....	3,059,771	1,272,954	6,214,076	4,791,079	3,215,245	516,636	21,922,136	3,782,240	31,007	145,514
Carpets and rugs .....	32,996,316	5,080,654	9,218,267	3,544,860	237,970	38,991	19,823,561	2,744,928	9,634	43,455
Felt goods .....			48,530	28,877	31,866	6,373	51,707	9,667	14	61

MATERIALS USED—continued.													
Purchased in partially manufactured form—Continued.													
Yarns not made in mill—Continued.													
Spun silk.		Linen.		Jute, ramie, or other vegetable fiber.		Shoddy made in the mill for use therein.		Wool-hat bodies and hats in the rough.		Fur-hat bodies and hats in the rough.		All other materials which are components of the products.	
Pounds.	Cost.	Pounds.	Cost.	Pounds.	Cost.	Pounds.	Cost.	Dozs.	Cost.	Lbs.	Cost.		Cost.
Total .....	250,270	\$489,537	8,415,275	\$1,178,414	39,965,180	\$2,533,413	37,000,000	\$2,873,886	4,939	\$13,920	8,560	\$21,982	\$1,381,466
Worsted goods .....	47,533	166,672	1,314	1,052									74,535
Woolen goods .....	23,957	72,632	7,845	6,998	1,118,767	57,384	35,626,165	2,817,663					536,001
Carpets and rugs .....	178,780	250,233	8,388,211	1,164,826	38,846,413	2,476,029	125,000	6,125					199,618
Felt goods .....			17,905	5,538			1,248,835	50,098					97,212
Wool hats .....									4,939	13,920	8,560	21,982	474,100

MATERIALS USED—continued.											
										Cotton yarn made in mill for use therein.	
Soap.		Oil for preparing wool for cards or combs.		Chemicals and dye-stuffs.	Fuel.	Rent of power and heat.	Mill supplies.	All other materials.	Freight.	Pounds.	
Pounds.	Cost.	Gallons.	Cost.	Cost.	Cost.	Cost.	Cost.	Cost.	Cost.		
Total .....	36,136,593	\$1,879,886	3,501,582	\$1,039,679	\$7,983,684	\$3,652,162	\$206,326	\$1,406,856	\$4,323,321	\$1,775,893	7,733,201
Worsted goods .....	13,486,089	485,397	483,703	221,981	2,627,140	1,226,938	79,338	564,150	1,818,608	527,418	3,237,131
Woolen goods .....	18,758,003	742,528	2,467,865	693,228	3,963,020	1,795,286	102,131	655,338	1,983,130	983,881	2,783,739
Carpets and rugs .....	2,696,173	90,271	465,731	103,671	1,151,726	469,913	22,881	138,181	366,761	157,139	1,712,421
Felt goods .....	968,495	51,760	77,653	20,232	128,296	110,355	1,976	39,446	91,629	64,435	
Wool hats .....	227,833	9,930	1,730	567	108,502	49,670		9,741	63,193	43,020	

PRODUCTS.									
All-wool woven goods, whether woolen or worsted.									
Value.	Wool cloths, etc.		Worsted coatings, etc.		Woolen overcoatings, etc.		Worsted overcoatings, etc.		
	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	
Total .....	\$296,990,484	34,551,266	\$22,860,783	54,083,679	\$43,003,550	18,732,922	\$16,135,436	877,133	\$567,390
Worsted goods .....	120,314,344	3,582,788	2,508,918	50,204,572	39,552,778	1,718,008	1,705,645	16,690	7,778
Woolen goods .....	118,430,158	30,715,638	20,136,951	8,829,107	3,450,777	17,011,186	14,426,064	860,443	559,612
Carpets and rugs .....	48,192,351								
Felt goods .....	6,461,691	282,840	214,914			3,728	3,727		
Wool hats .....	3,591,940								



TABLE 30.—WOOL MANUFACTURES (EXCLUDING HOSIERY AND KNIT GOODS): SUMMARY BY CLASSES, 1900—Cont'd.

	PRODUCTS—continued.									
	All-wool woven goods, whether woolen or worsted—Continued.									
	Wool dress goods, etc., and opera and similar flannels.		Worsted dress goods, cashmeres, buntings, etc.		Carriage cloths of all weights.		Fannels for underwear.		Blankets.	
	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.
Total.....	33,597,692	\$12,978,546	57,712,086	\$16,816,892	1,220,408	\$696,999	9,345,556	\$2,352,086	5,465,277	\$2,325,307
Worsted goods.....	3,220,974	1,598,459	54,480,569	14,994,513	1,220,408	696,999	9,324,720	2,344,559	187,530	42,194
Woolen goods.....	30,278,238	11,378,080	3,231,517	1,321,879			20,836	7,527	5,266,643	2,274,774
Felt goods.....	3,480	2,067							11,104	8,339

  

	PRODUCTS—continued.											
	All-wool woven goods, whether woolens or worsted—Cont'd.						Union or cotton mixed, woven goods.					
	Horse blankets.		Carriage robes.		Woven shawls.		Unions, tweeds, etc.		Overcoatings, etc.		Sackings, tricots, etc., and opera and similar flannels.	
	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.
Total.....	518,452	\$259,221	28,979	\$17,877	600,104	\$500,523	30,767,915	\$13,695,830	6,087,366	\$3,518,613	11,176,752	\$3,669,584
Worsted goods.....					72,248	\$7,902	1,179,014	880,441	411,902	353,864	1,071,204	328,243
Woolen goods.....	514,952	256,211	615	510	512,202	428,275	29,588,901	12,815,389	5,675,464	3,164,749	10,105,548	3,341,341
Carpets and rugs.....			28,364	17,367								
Felt goods.....	3,500	3,010										

  

	PRODUCTS—continued.									
	Union or cotton-mixed woven goods—Continued.								Goods woven on cotton warps, with weft partly or wholly of wool, worsted, or of hair (or cotton weft with warp of wool).	
	Flannels for underwear.		Blankets.		Horse blankets.		Carriage robes.		Wool filling, cassimeres, etc.	
	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.
Total.....	6,217,094	\$1,284,578	1,530,696	\$561,649	1,094,537	\$228,943	460,210	\$152,499	37,160,449	\$11,024,538
Worsted goods.....										
Woolen goods.....	6,217,094	1,284,578	1,530,696	561,649	1,094,537	228,943	460,210	152,499	2,073,990	1,356,735
									35,086,459	9,667,803

  

	PRODUCTS—continued.									
	Goods woven on cotton warps, with weft partly or wholly of wool, worsted, hair (or cotton weft with warp of wool)—Continued.									
	Worsted filling cassimeres, etc.		Wool filling overcoatings and cloakings.		Astrakhans, etc.		Satinets and linseys.		Worsted filling dress goods, etc.	
	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.
Total.....	12,663,719	\$7,267,508	3,917,498	\$1,430,430	32,576	\$14,150	13,051,729	\$2,873,181	45,784,011	\$10,423,206
Worsted goods.....	10,540,927	6,401,491							39,611,517	8,466,106
Woolen goods.....	2,122,792	866,017	3,917,498	1,430,430	32,576	14,150	13,051,729	2,873,181	6,172,494	1,957,100

TABLE 30.—WOOL MANUFACTURES (EXCLUDING HOSIERY AND KNIT GOODS): SUMMARY BY CLASSES, 1900—Cont'd.

	PRODUCTS—continued.									
	Goods woven on cotton warps, with weft partly or wholly of wool, worsted, or hair (or cotton weft with warp of wool)—Continued.									
	Wool filling, dress goods, and repellants.		Domest flannels and shirtings.		Linings, Italian cloths, etc.		Cotton-warp blankets.		Horse blankets.	
	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.
Total.....	7,496,898	\$1,890,488	4,555,013	\$976,465	10,157,039	\$2,228,484	11,159,532	\$2,314,003	5,702,315	\$1,252,824
Worsted goods.....	347,882	155,042			6,987,330	1,953,189				
Woolen goods.....	7,149,016	1,735,446	4,555,013	976,465	3,169,709	275,295	11,107,104	2,241,312	5,702,315	1,252,824
Felt goods.....							52,428	72,681		

	PRODUCTS—continued.															
	Goods woven on cotton warps, with weft partly or wholly of wool, worsted, or of hair (or cotton weft with warp of wool)—continued.		Upholstery goods and sundries.			Carpets and rugs.										
						Carpets.										
						Carriage robes.		Woolen and worsted upholstery goods.		Other upholstery goods.	Ingrain, 2-ply.		Ingrain, 3-ply.		Ingrain.	
						Square yards.	Value.	Square yards.	Value.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.
Total .....	1,250,900	\$816,733	541,909	\$786,461	\$2,922,850	36,800,494	\$18,250,801	3,223,100	\$1,146,658	2,828,906	\$1,007,627					
Worsted goods .....			43,614	62,130	454,995											
Woolen goods .....	1,250,288	815,233	408,954	679,991	2,062,611	102,202	28,144	543	880							
Carpets and rugs .....	667	1,500	94,341	44,340	405,244	36,698,292	18,222,657	3,222,557	1,146,278	2,828,906	1,007,627					

	PRODUCTS—continued.											
	Carpets and rugs—Continued.											
	Carpets—Continued.											
	Tapestry Brussels.		Body Brussels.		Tapestry velvet.		Wilton and Wilton velvet.		Axminster.		Moquette.	
	Running yards of 27 inches wide.	Value.	Running yards of 27 inches wide.	Value.	Running yards of 27 inches wide.	Value.	Running yards of 27 inches wide.	Value.	Running yards of 27 inches wide.	Value.	Running yards of 27 inches wide.	Value.
Total.....	11, 649, 932	\$5, 520, 665	8, 581, 991	\$2, 979, 867	5, 706, 754	\$3, 743, 853	4, 782, 835	\$4, 030, 842	5, 074, 961	\$3, 637, 001	1, 027, 410	\$1,125,268
Carpets and rugs.....	11, 649, 932	5, 520, 665	8, 581, 991	2, 979, 867	5, 706, 754	3, 743, 853	4, 782, 835	4, 030, 842	5, 074, 961	3, 637, 001	1, 027, 410	1, 125, 268

[illegible]

TABLE 30.—WOOL MANUFACTURES (EXCLUDING HOSIERY AND KNIT GOODS): SUMMARY BY CLASSES, 1900—Cont'd.

	PRODUCTS—continued.										
	Felt goods.										
	Felt cloths.		Endless belts.		Boot and shoe linings.		Hair felting.		Trimming and lining felts, felt skirts, etc.		All other felts.
	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Value.
Total .....	2,169,061	\$599,961	1,114,857	\$1,084,885	1,052,588	\$540,110	125,000	\$56,950	2,472,568	\$797,093	\$2,285,310
Woolen goods .....	113,059	51,418							2,788	375	8,029
Carpets and rugs .....											15,303
Felt goods .....	2,056,002	548,543	1,114,857	1,084,885	1,052,588	540,110	125,000	56,950	2,469,880	796,718	2,261,918

  

	PRODUCTS—continued.											
	Hats.				Partly manufactured products for sale.							
	Wool hats.		Fur hats.		Woolen yarn all wool.		Worsted yarn and tops.		Woolen or worsted yarn, union or merino, cotton mixed.		Mohair and similar yarn.	
	Dozens.	Value.	Dozens.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Total .....	823,425	\$3,166,761	43,994	\$285,705	33,812,065	\$7,075,888	45,780,272	\$31,171,461	15,984,507	\$4,673,012	1,004,113	\$924,344
Worsted goods .....	12,000	5,400			3,556,375	1,052,508	41,659,360	29,358,056	2,537,303	1,903,639	788,166	705,211
Woolen goods .....					29,143,476	5,752,118	1,343,983	723,369	13,437,264	2,764,486	216,947	219,133
Carpets and rugs .....					1,073,214	252,857	2,776,929	1,030,036	10,000	4,887		
Felt goods .....					89,000	18,400						
Wool hats .....	811,425	3,161,361	43,994	285,705								

  

	PRODUCTS—continued.											
	Partly manufactured products for sale—Continued.											
	Cotton yarn.		Wool card rolls.		Noils.		Waste.		Shoddy.		Flocks.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Total .....	3,531,992	\$527,046	977,706	\$395,808	12,851,031	\$3,474,318	8,511,905	\$1,253,170	430,176	\$70,064	512,422	\$33,017
Worsted goods .....	76,013	19,760			12,052,814	3,335,251	7,184,821	1,162,610			297,028	11,783
Woolen goods .....	3,455,979	507,286	977,706	395,808	124,029	18,936	978,473	67,059	430,176	70,064	212,026	21,037
Carpets and rugs .....					674,188	120,131	330,851	21,133				
Felt goods .....							18,260	7,368			2,169	197

  

	PRODUCTS—continued.									
	Partly manufactured products for sale—Continued.		Hosiery and knit goods.							
			Hose and half hose.							
			Woolen.				Merino or mixed.		Cotton.	
			Half hose.		Hose.		Half hose.		Hose.	
	Dozens.	Value.	Dozens.	Value.	Dozens.	Value.	Dozens.	Value.	Dozens.	Value.
Total .....		56,006		\$120,262	3,438	\$11,714	828	\$3,122	852	\$1,806
Woolen goods .....					3,438	11,714	828	3,122	852	1,806
Wool hats .....		56,006		120,262					80	\$180

TABLE 30.—WOOL MANUFACTURES (EXCLUDING HOSIERY AND KNIT GOODS): SUMMARY BY CLASSES, 1900—Cont'd.

	PRODUCTS—continued.											
	Hosiery and knit goods—Continued.				Leggings and garters.		Gloves and mittens.		Eiderdown.		All other products.	Contract work.
	Boot and shoe linings.		Jersey cloth and stockinette.									
	Square yards.	Value.	Square yards.	Value.	Dozens.	Value.	Dozens.	Value.	Square yards.	Value.	Value.	Value.
Total .....	11,420	\$8,800	2,784	\$1,010	207	\$1,656	1,238	\$4,641	361,000	\$126,403	\$5,748,109	\$1,613,054
Worsted goods .....												
Woolen goods .....	11,420	8,800	2,784	1,010	207	1,656	1,238	4,641	361,000	126,403	1,077,474	793,338
Carpets and rugs .....											1,190,662	775,445
Felt goods .....											2,648,205	20,100
Wool hats .....											831,327	24,171
											441	

	COMPARISON OF PRODUCTS.			POWER.											
	Number of establishments reporting for both years.	Census year 1900.	Preceding business year.	Number of establishments reporting.	Total horse-power.	Owned.									
						Engines.				Water wheels.		Electric motors.		Other power.	
						Steam.		Gas or gasoline.							
						Num-ber.	Horse-power.	Num-ber.	Horse-power.	Num-ber.	Horse-power.	Num-ber.	Horse-power.	Num-ber.	Horse-power.
Total .....	1,163	\$277,335,405	\$227,326,132	1,393	274,262	1,525	186,252	17	446	1,161	79,056	89	2,697	3	9
Woolen goods .....	861	109,712,214	95,443,073	1,024	139,645	893	32,933	12	191	954	52,358	51	1,217	2	4
Worsted goods .....	145	113,635,037	85,483,846	185	97,383	399	78,180	4	220	147	20,491	20	1,151	1	6
Carpets and rugs .....	114	46,885,929	40,191,460	127	26,932	155	23,091	1	35	22	3,145	6	192		
Felt goods .....	25	3,887,905	8,416,320	36	7,973	52	5,129			29	2,657	6	132		
Wool hats .....	18	3,284,380	2,791,933	21	2,329	26	1,919			9	405	1	5		

	POWER—continued.			FACTORIES.										
	Rented.		Furnished to other establishments.	Total number of establishments.	No employees.	Under 5.	5 to 20.	21 to 50.	51 to 100.	101 to 250.	251 to 500.	501 to 1,000.	Over 1,000.	
	Electric.	Other kind.												
	Horse-power.	Horse-power.	Horse-power.											
Total .....	4,798	1,004	1,044	1,414	115	193	193	206	243	282	115	45	22	
Woolen goods .....	2,942		286	1,035	114	186	158	146	165	194	61	19	2	
Worsted goods .....	1,801	535	260	186		1	10	17	42	53	28	23	12	
Carpets and rugs .....		469	484	133		2	18	35	30	20	19	8	8	
Felt goods .....	55		14	36		1	6	4	13	10	2			
Wool hats .....				24	1	3	1	6	3	5	5			

TABLE 31.—WOOLEN GOODS.

	United States.	Alabama.	Arkansas.	California.	Connecticut.
1 Number of establishments.....	1,035	11	13	5	51
2 Character of organization:					
3 Individual.....	426	6	7	1	8
4 Firm and limited partnership.....	298	3	6		16
5 Incorporated company.....	311	2		4	28
6 Capital:					
7 Total.....	\$124,386,262	\$97,759	\$43,525	\$1,050,474	\$9,140,066
8 Land.....	\$7,948,126	\$2,175	\$2,855	\$90,900	\$395,966
9 Buildings.....	\$17,760,364	\$14,795	\$6,000	\$117,935	\$1,458,743
10 Machinery, tools, and implements.....	\$28,703,473	\$31,723	\$17,800	\$270,348	\$2,012,192
11 Cash and sundries.....	\$69,974,299	\$49,066	\$16,870	\$571,291	\$5,278,165
12 Proprietors and firm members.....	822	13	18	1	46
13 Salaried officials, clerks, etc.:					
14 Total number.....	2,246	2	3	18	144
15 Total salaries.....	\$2,934,048	\$1,820	\$903	\$25,400	\$191,857
16 Officers of corporations—					
17 Number.....	402			6	44
18 Salaries.....	\$847,208			\$10,100	\$69,300
19 General superintendents, managers, clerks, etc.—					
20 Total number.....	1,844	2	3	12	100
21 Total salaries.....	\$2,086,840	\$1,820	\$903	\$15,360	\$122,057
22 Men—					
23 Number.....	1,664	2	3	12	94
24 Salaries.....	\$2,001,628	\$1,820	\$903	\$15,360	\$119,734
25 Women—					
26 Number.....	180				6
27 Salaries.....	\$85,312				\$2,323
28 Wage-earners, including pieceworkers, and total wages:					
29 Greatest number employed at any one time during the year.....	81,511	116	41	522	5,628
30 Least number employed at any one time during the year.....	60,489	38	33	387	4,082
31 Average number.....	68,893	75	27	430	4,068
32 Wages.....	\$24,757,006	\$10,458	\$5,158	\$159,825	\$1,760,917
33 Men, 16 years and over—					
34 Average number.....	40,601	21	14	264	3,071
35 Wages.....	\$16,913,731	\$3,863	\$3,264	\$113,826	\$1,285,590
36 Women, 16 years and over—					
37 Average number.....	24,535	51	11	147	1,448
38 Wages.....	\$7,218,087	\$6,395	\$1,651	\$43,012	\$446,762
39 Children, under 16 years—					
40 Average number.....	3,757	3	2	19	149
41 Wages.....	\$625,188	\$200	\$243	\$2,987	\$29,565
42 Average number of wage-earners, including pieceworkers, employed during each month:					
43 Men, 16 years and over—					
44 January.....	39,214	19	9	234	3,006
45 February.....	39,772	20	6	219	3,025
46 March.....	40,930	20	8	269	3,181
47 April.....	41,092	22	8	250	3,128
48 May.....	40,361	21	14	250	3,082
49 June.....	39,532	17	14	255	2,838
50 July.....	38,839	20	17	288	2,783
51 August.....	39,714	22	18	282	2,968
52 September.....	40,898	22	22	293	3,127
53 October.....	41,900	22	23	299	3,212
54 November.....	42,502	23	20	309	3,248
55 December.....	42,488	24	9	224	3,258
56 Women, 16 years and over—					
57 January.....	24,001	67	7	119	1,433
58 February.....	23,964	34	8	105	1,417
59 March.....	24,676	62	10	138	1,497
60 April.....	24,750	76	9	146	1,461
61 May.....	24,491	33	18	151	1,417
62 June.....	23,934	14	13	147	1,342
63 July.....	23,503	14	14	154	1,347
64 August.....	23,792	32	14	167	1,398
65 September.....	24,658	33	14	173	1,442
66 October.....	25,454	33	14	175	1,603
67 November.....	25,720	51	13	172	1,537
68 December.....	25,477	65	5	117	1,548
69 Children, under 16 years—					
70 January.....	3,564	3	1	17	153
71 February.....	3,644	3		16	147
72 March.....	3,757	3	1	17	156
73 April.....	3,738	3	2	15	144
74 May.....	3,709	3	2	17	147
75 June.....	3,699	3	5	21	142
76 July.....	3,731	3	3	20	133
77 August.....	3,732	3	3	20	142
78 September.....	3,818	3	4	23	145
79 October.....	3,840	3	2	22	156
80 November.....	3,922	3	2	21	160
81 December.....	3,930	3	1	18	169
82 Skilled operatives, average number:					
83 Spinners—					
84 Men, 16 years and over.....	5,619	2	2	45	379
85 Women, 16 years and over.....	1,137	1		7	15
86 Children, under 16 years.....	790				6
87 Weavers—					
88 Men, 16 years and over.....	10,881	4		31	883
89 Women, 16 years and over.....	11,812	25	7	79	574
90 Children, under 16 years.....	103			11	
91 Knitters—					
92 Men, 16 years and over.....	7				
93 Finishers—					
94 Men, 16 years and over.....	4,625	4	2	57	344
95 Women, 16 years and over.....	2,798	6		25	250
96 Children, under 16 years.....	180				12
97 Machinery:					
98 Sets of woolen cards.....	5,010	8	16	30	343
99 Combing machines, number.....	123				32
100 Of American manufacture.....	77				30
101 Of foreign manufacture.....	46				2
102 Spindles, number.....	1,906,581	160	1,000	10,932	149,278
103 Spinning:					
104 Woolen.....	1,714,952	160	960	10,476	127,218
105 Worsted.....	40,914				2,000
106 Cotton.....	50,276				10,000

# WOOL.

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BY STATES, 1900.

Georgia.	Illinois.	Indiana.	Iowa.	Kentucky.	Maine.	Maryland.	Massachu- setts.	Michigan.	Minnesota.	Mississippi.	Missouri.	
14	18	20	12	36	76	4	131	16	19	4	25	1
8	6	5	5	20	25	1	45	7	11	2	17	2
2	2	6	3	11	12	2	32	7	6	5	5	3
4	5	9	4	5	89	1	54	2	2	2	8	4
\$455, 114	\$1, 571, 625	\$1, 849, 268	\$494, 074	\$1, 588, 816	\$12, 642, 058	\$1, 330, 549	\$33, 196, 903	\$775, 609	\$762, 825	\$315, 700	\$490, 747	5
\$82, 065	\$100, 994	\$57, 375	\$24, 990	\$32, 955	\$728, 715	\$28, 680	\$2, 357, 172	\$14, 200	\$178, 900	\$5, 400	\$30, 135	6
\$61, 895	\$211, 679	\$288, 799	\$67, 850	\$157, 195	\$1, 883, 515	\$169, 177	\$4, 663, 468	\$111, 988	\$133, 082	\$90, 400	\$89, 460	7
\$198, 185	\$367, 781	\$525, 997	\$143, 350	\$340, 422	\$2, 759, 954	\$171, 663	\$5, 706, 431	\$187, 285	\$183, 035	\$107, 900	\$170, 475	8
\$162, 969	\$891, 221	\$977, 092	\$257, 894	\$1, 058, 244	\$7, 819, 874	\$961, 079	\$20, 469, 831	\$462, 186	\$267, 828	\$100, 000	\$194, 687	9
1	4	12	11	18	34	6	102	16	6	2	18	10
13	50	58	26	20	190	25	438	23	20	5	18	11
\$16, 936	\$69, 028	\$68, 148	\$16, 611	\$28, 972	\$241, 988	\$85, 625	\$729, 724	\$18, 099	\$23, 450	\$10, 100	\$20, 928	12
3	6	15	5	9	89	3	55	3	2	2	7	18
\$7, 114	\$12, 000	\$24, 430	\$4, 320	\$21, 200	\$69, 115	\$14, 100	\$203, 875	\$3, 500	\$11, 000	\$2, 000	\$9, 900	14
10	44	43	21	11	151	22	383	20	18	3	11	15
\$9, 822	\$57, 023	\$48, 718	\$12, 291	\$7, 772	\$172, 873	\$21, 525	\$525, 849	\$14, 599	\$12, 450	\$8, 166	\$11, 023	16
10	40	37	19	9	140	20	326	19	16	3	9	17
\$9, 822	\$54, 788	\$39, 712	\$11, 523	\$5, 692	\$167, 599	\$20, 401	\$496, 264	\$14, 965	\$10, 950	\$8, 166	\$10, 128	18
4	6	2	2	2	11	2	57	1	2	2	2	19
\$2, 285	\$4, 006	\$768	\$1, 080	\$5, 274	\$1, 124	\$29, 585	\$234	\$1, 500	.....	.....	\$900	20
590	883	1, 226	295	704	7, 746	943	21, 040	441	855	382	386	21
551	637	782	242	642	5, 086	811	14, 966	811	905	262	219	22
561	693	1, 048	256	618	6, 280	877	17, 717	837	800	302	287	23
\$97, 159	\$210, 157	\$306, 822	\$64, 596	\$144, 874	\$2, 883, 323	\$221, 215	\$6, 823, 051	\$108, 168	\$90, 062	\$55, 192	\$63, 814	24
284	863	432	126	149	4, 280	576	11, 177	193	160	146	139	25
\$55, 013	\$139, 831	\$169, 875	\$39, 578	\$50, 350	\$1, 778, 171	\$173, 152	\$4, 803, 450	\$71, 726	\$60, 196	\$34, 369	\$42, 427	26
180	290	571	128	864	1, 941	204	5, 865	144	119	111	79	27
\$31, 720	\$66, 888	\$129, 206	\$24, 647	\$79, 966	\$584, 122	\$38, 011	\$1, 888, 520	\$36, 442	\$27, 081	\$16, 284	\$18, 298	28
88	35	45	2	105	109	97	675	.....	21	45	19	29
\$10, 426	\$3, 438	\$7, 681	\$873	\$14, 558	\$21, 080	\$10, 052	\$131, 031	.....	\$3, 385	\$4, 089	\$2, 539	30
275	372	396	111	125	4, 245	563	11, 027	196	127	125	67	81
274	351	410	113	125	4, 223	557	11, 252	201	126	126	140	82
278	360	425	112	129	4, 303	573	11, 511	202	135	139	149	83
288	313	423	116	139	4, 215	585	11, 583	188	152	144	160	84
293	366	441	126	162	4, 081	585	10, 988	183	180	147	166	85
291	372	430	131	170	4, 007	587	11, 008	207	174	145	186	86
290	372	403	142	175	3, 847	597	10, 439	198	182	138	187	87
291	390	438	138	174	4, 124	572	10, 413	189	169	140	176	87
293	391	465	139	162	4, 244	583	11, 054	189	172	156	169	88
281	399	456	180	140	4, 448	575	11, 899	193	170	166	149	89
272	370	457	132	154	4, 544	563	11, 662	190	168	156	128	40
279	366	438	123	137	4, 481	568	11, 787	180	163	158	125	41
181	296	519	122	365	1, 924	200	5, 781	153	98	96	64	43
181	285	525	124	364	1, 908	203	5, 933	161	96	106	85	44
185	290	557	119	364	1, 966	208	6, 066	168	101	110	82	45
191	243	567	121	365	1, 961	207	6, 079	188	119	111	82	46
195	232	579	127	365	1, 884	202	5, 896	126	135	109	95	47
196	287	549	133	366	1, 863	203	5, 832	138	133	106	95	48
197	300	551	135	366	1, 768	201	5, 446	142	139	107	87	49
197	309	582	134	366	1, 897	206	5, 269	133	125	112	85	50
195	313	585	137	346	1, 898	208	5, 701	143	124	113	64	51
182	311	604	126	348	2, 019	208	6, 023	150	121	119	63	52
182	277	605	130	376	2, 102	203	6, 167	144	123	120	59	53
188	279	586	124	377	2, 111	202	6, 186	137	118	122	57	54
87	29	42	.....	97	118	81	625	.....	20	30	18	55
89	29	40	.....	97	123	85	668	.....	20	43	18	56
87	29	49	.....	100	131	95	693	.....	20	44	20	57
91	31	37	1	102	139	104	703	.....	23	45	22	58
87	30	46	5	106	100	111	693	.....	23	44	27	59
90	31	44	5	108	105	110	685	.....	23	42	25	60
89	32	49	5	110	111	99	652	.....	23	44	23	61
88	39	44	5	111	93	97	621	.....	23	45	22	62
88	40	55	5	112	83	87	682	.....	20	47	13	63
88	40	46	1	112	98	87	689	.....	20	48	14	64
88	42	44	1	108	95	96	695	.....	20	49	12	65
86	42	42	.....	100	133	89	695	.....	20	50	9	66
77	31	23	14	77	480	96	1, 467	27	33	14	17	67
11	30	107	6	.....	76	8	87	17	1	.....	11	68
66	3	21	.....	15	1	67	67	.....	1	.....	.....	69
89	102	74	17	19	1, 231	115	3, 101	27	13	15	20	70
167	57	345	40	273	699	122	3, 014	46	101	59	79	71
10	.....	2	.....	.....	1	6	8	.....	.....	.....	1	72
34	83	55	12	23	485	52	1, 522	29	1	.....	.....	73
6	33	17	11	2	381	22	701	15	18	8	21	74
.....	2	.....	.....	2	4	.....	59	.....	2	.....	9	75
81	46	85	26	58	422	47	1, 251	40	33	26	86	77
3	.....	.....	.....	.....	5	.....	19	.....	.....	.....	.....	78
.....	.....	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	79
11, 008	16, 156	46, 864	9, 552	21, 215	168, 915	15, 823	472, 984	14, 707	9, 524	8, 916	7, 762	80
11, 008	15, 286	39, 608	9, 028	20, 871	145, 853	15, 798	442, 946	13, 512	8, 978	8, 916	7, 523	82
.....	.....	6, 500	.....	.....	6, 984	.....	8, 352	.....	.....	.....	.....	83
.....	.....	.....	.....	.....	3, 584	.....	1, 300	.....	.....	.....	.....	84



TABLE 31.—WOOLEN GOODS:

	United States.	Alabama.	Arkansas.	California.	Connecticut.
Machinery—Continued.					
Spindles, number—Continued.					
85 Doubling—			40	456	6,060
86 Woolen	74,781				4,000
87 Worsted	24,848				
88 Cotton	860				
Looms on woolen or worsted goods, number	34,881	12	40	142	2,274
89 Broad, 50 inches or over, reed space—			13	119	1,527
90 On woolen goods	19,056		2		280
91 On worsted goods	1,994				
Narrow, under 50 inches, reed space—		12	20	23	461
92 On woolen goods	12,656		5		6
93 On worsted goods	1,143				
94 Hand—					
On woolen or worsted goods	32				
Looms on carpets and rugs, number	142	30			
95 Ingrain—					
96 Hand	7				
Power	32	30			
97 Body Brussels—					
Power	103				
98 Formers for fur hats	500				
99 Braiders	12,128				
100 Knitting machines, number	157				86
Spring-beard needle—					
101 Circular, ribbed	4				
102 Circular, plain	110				86
Latch needle—					
103 Flat, plain	7				
104 Full fashioned, flat, ribbed	5				
105 Circular, ribbed	11				
106 Circular, plain	16				
107 Circular, hosiery, automatic	2				
108 Lamb and other variety, hand	2				
Miscellaneous expenses:					
109 Total	\$7,268,634	\$8,091	\$398	\$78,201	\$473,106
110 Rent of works	\$365,171	\$113			\$17,912
111 Taxes, not including internal revenue	\$566,452	\$231	\$308	\$4,417	\$38,435
112 Rent of offices, insurance, interest, and all sundry expenses not hitherto included	\$5,880,517	\$7,647	\$90	\$73,844	\$309,322
113 Contract work	\$456,494	\$100			\$17,437
Material used:					
114 Total cost	\$71,011,956	\$43,078	\$28,598	\$409,445	\$4,951,162
Wool—					
115 Foreign, in condition purchased, pounds	22,521,951				717,771
116 Cost	\$4,598,624				\$254,033
117 Domestic, in condition purchased, pounds	127,678,662	129,041	129,637	2,045,311	7,309,251
118 Cost	\$29,899,065	\$24,511	\$22,817	\$317,075	\$2,075,025
119 Foreign and domestic, etc., scoured, pounds	89,366,908	68,465	85,176	824,116	5,527,290
Animal hair and fur—					
120 Camel, alpaca, and vicuna hair, pounds	238,247				
121 Cost	\$34,337				
122 Mohair, pounds	1,117,179				5,000
123 Cost	\$459,831				\$2,000
124 Buffalo, cow, and other animal hair and fur, pounds	19,679,181				164,331
125 Cost	\$1,090,796				\$13,721
126 Cotton, bales	80,725	40		84	3,411
127 Pounds	34,967,959	20,000		43,058	1,094,850
128 Cost	\$2,755,485	\$2,000		\$3,122	\$159,049
Materials not made in mill—					
129 Shoddy, pounds	31,228,940			40,714	4,344,780
130 Cost	\$3,767,192			\$5,140	\$472,421
131 Wool waste and noils, pounds	13,478,154				1,021,804
132 Cost	\$3,249,982				\$186,135
133 Camel, alpaca, and vicuna noils, pounds	185,000				795
134 Cost	\$44,450				\$182
135 Mohair noils, pounds	113,562				6,248
136 Cost	\$25,587				\$1,840
137 Tops, pounds	305,833				17,236
138 Cost	\$163,961				\$9,211
Yarns not made in mill—					
139 Woolen, pounds	3,059,771	46,096			40,976
140 Cost	\$1,272,954	\$4,609			\$26,075
141 Worsted, pounds	6,214,076			1,000	615,351
142 Cost	\$4,791,079			\$1,200	\$380,389
143 Merino, pounds	3,215,245				4,000
144 Cost	\$516,636				\$1,191
145 Cotton, pounds	21,922,136	78,281	14,000	24,377	902,313
146 Cost	\$3,782,240	\$9,216	\$2,480	\$5,964	\$192,325
147 Silk, pounds	34,007				51
148 Cost	\$145,514				\$207
149 Spun silk, pounds	28,957				
150 Cost	\$72,632				
151 Linen, pounds	7,845				
152 Cost	\$6,098				
153 Jute, ramie, or other of vegetable fiber, pounds	1,118,767				
154 Cost	\$57,384				
155 Shoddy made in mill for use therein, pounds	35,626,165			79,265	1,362,929
156 Cost	\$2,817,663			\$4,781	\$168,251
157 All other materials which are components of the product	\$536,001				\$18,205
158 Soap, pounds	18,758,008	125	5,300	440,000	1,076,286
159 Cost	\$742,528	\$5	\$185	\$6,658	\$17,081
160 Oil for preparing wool for cards or combs, gallons	2,467,865	927	850	10,721	175,527
161 Cost	\$693,228	\$130	\$222	\$3,597	\$48,417
162 Chemicals and dyestuffs	\$3,968,020	\$500	\$550	\$26,000	\$297,765
163 Fuel	\$1,795,286	\$940	\$1,404	\$18,933	\$170,595
164 Rent of power and heat	\$102,131		\$100		\$700
165 Mill supplies	\$655,338	\$495	\$505	\$3,550	\$55,731
166 All other materials	\$1,983,130	\$355	\$340	\$5,866	\$142,950
167 Freight	\$983,881	\$317	\$15	\$6,959	\$77,615
168 Cotton yarn made in mill for use therein, pounds	2,783,739				565,000

BY STATES, 1900—Continued.

Georgia.	Illinois.	Indiana.	Iowa.	Kentucky.	Maine.	Maryland.	Massachu- setts.	Michigan.	Minnesota.	Mississippi.	Missouri.	
	870	758	524	344	7,206	30	15,978	1,195	540		239	85
					5,288		4,408					86
503	184	891	112	533	2,447	179	8,989	159	143	180	196	87
	161	274	91	71	2,354	176	5,384	180	129	62	69	88
	2						541					89
503	21	617	21	460	93	3	2,060	29	14	68	127	90
							54					91
				2								92
					104							93
					1							94
												95
					103							96
												97
							1,000					98
									8			99
									4			100
									4			101
												102
												103
												104
												105
												106
												107
												108
\$22,430	\$78,486	\$97,855	\$16,831	\$48,644	\$659,319	\$54,181	\$1,745,199	\$29,717	\$96,178	\$17,817	\$21,067	109
\$3,012	\$1,350	\$1,660	\$650	\$556	\$1,794		\$114,538	\$650	\$1,255		\$148	110
\$18,455	\$5,727	\$12,093	\$2,726	\$9,365	\$54,166	\$5,940	\$208,768	\$5,632	\$3,894	\$3,511	\$2,271	111
\$903	\$90,409	\$84,102	\$13,455	\$41,723	\$599,911	\$48,241	\$1,331,195	\$23,435	\$31,029	\$14,266	\$18,648	112
					\$448		\$90,698			\$40		113
\$280,295	\$492,270	\$876,669	\$175,426	\$405,775	\$6,842,079	\$667,036	\$18,273,424	\$406,726	\$272,483	\$102,308	\$206,570	114
5,200				43,917	2,410,357		3,204,445	12,981	3,334			115
\$1,040				\$8,051	\$624,003		\$767,172		\$1,040			116
267,478	1,439,452	3,152,801	773,053	703,825	15,904,448	1,938,908	35,482,272	1,406,473	1,281,977	244,434	464,946	117
\$37,910	\$358,116	\$923,035	\$147,698	\$168,682	\$3,555,250	\$434,634	\$7,610,619	\$300,803	\$221,855	\$48,628	\$151,762	118
169,282	777,507	1,697,505	380,049	477,623	9,903,269	980,023	20,256,198	802,481	659,643	142,094	600,154	119
					9,781		29,499					120
					\$1,482		\$8,109					121
550		1,194			428,845		656,754					122
\$30		\$327			\$180,055		\$209,637					123
1,000					823,952		879,331					124
\$100					\$60,006		\$55,349					125
2,923	87	1,491	9	1,686	4,586	1,267	10,059	102				126
1,433,936	43,217	730,030	4,103	856,115	2,298,770	637,730	4,746,530	55,650	1,475	70,560	166,221	127
\$101,536	\$4,497	\$40,562	\$513	\$49,661	\$247,988	\$49,661	\$453,782	\$5,571	\$152	\$3,780	\$9,150	128
												129
111,357	128,244	88,235	2,756	144,124	3,094,185	58,326	8,628,593	119,261	8,475		80,779	130
\$19,143	\$21,987	\$14,063	\$441	\$33,874	\$464,512	\$14,621	\$994,924	\$22,727	\$1,141		\$12,182	131
1,613	10,500	157,795	5,000		1,017,527	53,746	2,847,395	39,622	13,892			132
\$436	\$2,800	\$38,879	\$750		\$309,285	\$10,946	\$855,126	\$17,754	\$3,583			133
					30,223		100,773					134
					\$14,402		\$20,062					135
					555		31,512					136
					\$151		\$7,332					137
					3,263		11,136					138
					\$1,557		\$7,799					139
					17,839		949,270					140
					\$3,585		\$329,444					141
	9,078	10,864	110		28,795		1,979,720					142
\$7,572	\$3,179	\$110			\$23,165		\$1,685,696					143
							50,080					144
284,536	23,500	108,413	500	581,451	901,913		\$6,348	8,000	2,050	12,500	113,012	145
\$40,337	\$4,610	\$19,463	\$100	\$92,062	\$164,017		\$760,694	\$1,200	\$220	\$2,500	\$16,952	146
							1,483					147
							\$3,619					148
							1,700					149
							\$5,652					150
					3,595		4,000					151
					\$3,955		\$3,000					152
1,500			2,008				5,981					153
\$240			\$257				\$403					154
58,532		37,532		108,650	1,030,345	1,219,108	12,891,959			447,117		155
\$5,169		\$1,422		\$13,364	\$51,902	\$92,279	\$1,151,019			\$22,563		156
\$33					\$193	\$20	\$61,380					157
10,920	\$32,554	486,216	158,029	79,623	2,047,844	47,589	4,409,936	133,832	215,420	251,000	27,025	158
\$426	\$21,543	\$15,018	\$3,345	\$1,480	\$3,845	\$4,063	\$178,017	\$5,539	\$8,966	\$2,620	\$623	159
9,706	\$9,237	\$8,849	4,961	10,201	105,694	23,913	509,750	12,504	14,348	4,325	9,820	160
\$1,736	\$2,397	\$7,514	\$1,299	\$2,196	\$49,265	\$15,182	\$167,000	\$3,525	\$4,282	\$1,011	\$3,766	161
\$24,800	\$27,258	\$42,487	\$9,967	\$14,758	\$398,788	\$26,647	\$1,246,294	\$22,127	\$6,107	\$4,850	\$4,891	162
\$6,347	\$13,378	\$29,374	\$6,003	\$8,555	\$188,202	\$13,198	\$537,646	\$15,981	\$6,608	\$3,530	\$5,239	163
	\$200	\$900	\$40	\$58	\$15,062		\$29,239	\$250	\$2,308		\$45	164
\$1,765	\$4,535	\$9,312	\$3,076	\$4,688	\$62,560		\$187,495	\$4,125	\$4,089	\$2,918	\$1,804	165
\$5,560	\$1,708	\$7,785	\$325	\$3,966	\$167,189		\$805,720	\$885	\$8,645	\$5,678	\$75	166
\$4,577	\$1,426	\$5,739	\$1,002	\$4,380	\$167,828	\$760	\$259,817	\$2,345	\$3,397	\$200	\$90	167
		100,000	1,000	150,000	264,667		12,000					168

TABLE 31.—WOOLEN GOODS:

		United States.	Alabama.	Arkansas.	California.	Connecticut.
169	Products:					
170	Total value .....	\$118,430,158	\$67,263	\$42,401	\$687,354	\$3,087,218
171	All-wool woven goods, whether woolen or worsted—					
172	Wool cloths, doeskins, cassimeres, chevots, tweeds, indigo flannels, and	30,715,068	51,225	4,800	98,589	1,481,730
173	broadcloths, for men's wear, square yards.					
174	Value .....	\$20,136,951				
175	Worsted coatings, serges, and suitings, for men's wear, square yards.	8,829,107	\$19,792	\$2,946	\$92,352	\$1,089,659
176	Value .....	\$3,450,777			1,500	795,085
177	Woolen overcoatings, cloakings, kerseys, etc., for men's or women's wear,	17,011,186			\$2,500	\$626,539
178	square yards.				75,095	2,122,739
179	Value .....	\$14,426,064			\$78,826	\$1,851,673
180	Worsted overcoatings and cloakings, for men's or women's wear, square	860,443				
181	yards.					
182	Value .....	\$559,612				
183	Wool dress goods, sackings, tricots, ladies' cloth, broadcloth, and other	80,278,238				2,301,173
184	all-wool goods for women's wear, and opera and similar flannels, square					
185	yards.					
186	Value .....	\$11,378,030				\$930,698
187	Worsted dress goods, cassimeres, serges, and other worsted goods for	8,231,517				
188	women's wear, and buntings, square yards.					
189	Value .....	\$1,321,879				66,818
190	Carriage cloths of all weights, square yards.	1,220,408				\$32,866
191	Value .....	\$696,999				
192	Flannels for underwear, square yards.	9,324,720			549,044	1,761,030
193	Value .....	\$2,344,559			\$164,408	\$174,145
194	Blankets, square yards.	5,266,643		764	\$305	
195	Value .....	\$2,274,774		1,500	\$86,873	
196	Horse blankets, square yards.	514,052		\$900	\$211,702	
197	Value .....	\$256,211			4,000	21,822
198	Carriage robes, square yards.	615			\$2,000	\$3,225
199	Value .....	\$510				
200	Woven shawls, square yards.	512,202				
201	Value .....	\$428,275				14,613
202	Union or cotton mixed, woven goods—					\$20,824
203	Unions, tweeds, chevots, cassimeres, or other goods for men's wear,	29,588,901		5,000	52,107	2,001,035
204	square yards.					
205	Value .....	\$12,815,389				
206	Overcoatings and cloakings, square yards.	5,675,464		\$1,800	\$31,264	\$863,243
207	Value .....	\$3,164,749				745,378
208	Sackings, tricots, and dress goods for women's wear, and opera and simi-	10,105,548				\$117,641
209	lar flannels, square yards.					629,149
210	Value .....	\$3,341,341				
211	Flannels for underwear, square yards.	6,217,094				\$323,504
212	Value .....	\$1,284,578				
213	Blankets, square yards.	1,530,696				
214	Value .....	\$561,649		2,500	145,759	
215	Horse blankets, square yards.	1,094,537		\$1,000	\$62,736	
216	Value .....	\$228,943			890	
217	Carriage robes, square yards.	460,210			\$206	
218	Value .....	\$162,499			24,000	
219	Goods woven on cotton warps, with weft partly or wholly of wool, worsted or				\$16,800	
220	hair, or cotton weft with warp of wool—					
221	Wool-filling cassimeres, doeskins, jeans, tweeds, coatings, suitings, and	35,036,459		28,664		1,455,329
222	other cotton-warp goods for men's wear, not specified below, square yards.					
223	Value .....	\$9,667,803		\$9,504		\$413,700
224	Worsted-filling cassimeres, doeskins, jeans, tweeds, coatings, suitings, and	2,122,792				355,284
225	other cotton-warp goods for men's wear, not specified below, square yards.					
226	Value .....	\$866,017				\$301,135
227	Wool-filling overcoatings and cloakings, square yards.	3,917,498				61,769
228	Value .....	\$1,490,430				\$29,100
229	Astrakhans and similar goods, square yards.	32,576				
230	Value .....	\$14,150				
231	Satinets and linseys, square yards.	13,051,729		4,000		\$25,000
232	Value .....	\$2,873,181		\$1,000		\$205,120
233	Worsted-filling dress goods, delaines, cassimeres, serges, mohairs, alpacas,	6,172,494				
234	and other stuffs, for women's wear, square yards.					
235	Value .....	\$1,957,100				
236	Wool-filling dress goods and repellents, square yards.	7,149,016				247,553
237	Value .....	\$1,735,446				\$123,453
238	Domest flannels and shirtings, square yards.	4,555,013				1,615,535
239	Value .....	\$976,465				\$280,692
240	Linings, Italian cloths, and lastings, square yards.	8,169,709				
241	Value .....	\$275,295				
242	Cotton-warp blankets, square yards.	11,107,104		300	40,000	740
243	Value .....	\$2,241,342		\$96	\$22,500	\$325
244	Horse blankets, square yards.	5,702,315				295,659
245	Value .....	\$1,252,824				\$73,931
246	Carriage robes, square yards.	1,250,233				63,416
247	Value .....	\$815,233				\$23,356
248	Upholstery goods and sundries—					
249	Woolen and worsted upholstery goods, square yards.	403,954				
250	Value .....	\$679,991				
251	Other upholstery goods.	\$2,062,611				
252	Carpets and rugs—					
253	Carpets—					
254	Ingrain, 2-ply, square yards.	102,202	99,552			
255	Value .....	\$28,144	\$26,879			
256	Ingrain, 3-ply, square yards.	543				
257	Value .....	\$380				
258	Felt goods—					
259	Felt cloths, square yards.	113,050			2,000	
260	Value .....	\$51,418			\$2,000	
261	Trimming and lining felts, felt skirts and skirting, table and piano covers,	2,788				
262	saddle felts, square yards.					
263	Value .....	\$375				
264	All other felts.	\$8,029				
265	Hats—					
266	Wool hats, dozens.	12,000				
267	Value .....	\$5,400				
268	Partly manufactured products for sale—					
269	Woolen yarn—all wool, pounds.	29,143,476		5,760		
270	Value .....	\$5,752,118		\$2,804		
271	Worsted yarn and tops, pounds.	1,343,983				
272	Value .....	\$723,369				
273	Woolen or worsted yarn, union or merino, cotton mixed, pounds.	13,437,264				
274	Value .....	\$2,764,486				

WOOL.

BY STATES, 1900—Continued.

Georgia.	Illinois.	Indiana.	Iowa.	Kentucky.	Maine.	Maryland.	Massachu- setts.	Nichigan.	Minnesota.	Mississippi.	Missouri.	
\$491,001	\$982,987	\$1,491,218	\$296,500	\$746,684	\$11,638,282	\$1,218,378	\$30,888,104	\$826,836	\$496,812	\$172,908	\$348,974	169
	906,163	486,886	333,121	425	4,175,588	478,192	10,735,748	757,174	110,833		8,825	170
	\$654,213	\$351,769	\$155,060	\$345	\$2,420,866	\$239,096	\$6,879,279	\$459,758	\$66,700		\$5,950	171
	13,081						874,613					172
	\$10,380						\$1,272,831					173
	1,980	32,778			1,779,389	225,343	6,151,866	16,500				174
	\$1,386	\$21,852			\$1,602,482	\$169,007	\$5,544,178	\$12,687				175
		75,000					6,270					176
	666	\$150,000	102,006		5,403,946		\$3,314					177
		490,804					11,537,565		69,181			178
	\$299	\$217,866	\$35,813		\$2,182,474		\$3,766,850		\$18,898			179
							1,086,359		18,667			180
			4,322				\$403,917		\$4,800			181
			\$2,200				802,311					182
	1,722	718,372	111,517	2,240	1,754,267	8,000	\$365,147	\$25				183
	\$768	\$224,596	\$30,234	\$896	\$330,362		2,219,503	\$273				184
	87,504	598,639	129,180	120,860	\$185,281	\$2,400	\$689,248	12,875	\$3,583		64,080	185
	\$67,240	\$175,307	\$42,184	\$38,623	\$52,101	400		\$10,532	\$10,650		\$22,307	186
		2,706	2,000		260,784	\$200		\$1,825	\$65,401		258,792	187
		\$1,000	\$800		\$152,907		13,750	\$12,496	\$325,070		\$129,832	188
							\$9,000	200	1,080			189
								\$150	\$270			190
					33,949						615	191
					\$41,502				3,000		\$510	192
	120,000	1,930			2,664,583	1,934,597	3,849,310		\$1,700			193
	\$112,505	\$547			\$1,691,408	\$307,675	\$1,535,204			408,903		194
					598,969		1,439,836			\$140,294		195
		98,112	2,720		\$410,739		\$715,543					196
		\$11,242	\$798		1,043,906		4,414,628		2,875			197
			2,303		\$366,540		\$1,345,081					198
			\$427		227,400		3,011,516		\$745			199
	67,161	49,344	85,621	48,704	\$41,430		\$587,105					200
	\$17,100	\$7,462	\$16,746	\$17,269	500		433,252		1,965			201
					\$200		\$218,928		\$551			202
					151,108		1,875					203
					\$51,164		\$655					204
							387,085					205
							\$84,312					206
												207
2,625,479	5,338	904,927		2,287,878	1,121,716		6,966,602			56,034	423,559	208
\$460,469	\$1,600	\$165,036		\$496,302	\$378,372		\$2,178,525			\$21,064	\$84,324	209
70,450				308,330	120,000		489,316					210
							\$296,206					211
							1,055,861					212
							\$224,270					213
							17,676					214
							\$10,150					215
16,033							10,826,148					216
\$2,780				14,834	2,524		\$2,237,965		751			217
				\$5,773	\$1,525				\$891			218
												219
							865,380					220
							\$209,430					221
							167,000					222
							\$182,700					223
							2,180,798					224
							\$181,041					225
	79,080	1,500	15,870	1,296	1,824,470		1,120,224		3,241			226
\$20,505	\$20,505	\$600	\$2,856	\$440	\$535,233		\$216,295	750	\$1,946		168,000	227
					136,681		824,315				\$44,000	228
					\$54,897		\$130,477					229
	8,706				700,000		244,458					230
\$8,094	\$8,094				\$330,809		\$114,176					231
												232
					292,087		106,667					233
					\$475,591		\$200,000					234
							\$84,779					235
												236
												237
												238
												239
							110,034					240
							\$48,465					241
												242
												243
												244
												245
	10,100	123,188	10,466	16,099	30,100		676,140		79,621		45,904	246
	\$5,350	\$68,422	\$7,600	\$8,149	\$19,742		\$320,879	177,667	\$40,782		\$27,036	247
							50,000	\$110,975				248
							\$80,000					249
							197,200					250
	15,098	25,000		152,320	7,637		\$42,886	60,000	2,793			251
	\$2,335	\$8,750		\$63,636	\$3,003			\$17,400	\$817			252

TABLE 32.—WOOLEN GOODS:

	United States.	Alabama.	Arkansas.	California.	Connecticut.	
Products—Continued.						
Total value—Continued.						
Partly manufactured products for sale—Continued.						
Mohair and similar yarn, pounds.	215, 947					
Value.	\$219, 133					
Cotton yarn, pounds.	3, 455, 979				52, 557	
Value.	\$507, 286				\$9, 367	
Wool card rolls, pounds.	977, 706	54, 261	57, 577			
Value.	\$395, 808	\$20, 174	\$21, 746			
Nails, pounds.	124, 029					
Value.	\$18, 936					
Waste, pounds.	978, 473	500			188, 709	
Value.	\$67, 059	\$50			\$7, 663	
Shoddy, pounds.	480, 176				202, 910	
Value.	\$70, 064				\$88, 552	
Flocks, pounds.	212, 625					
Value.	\$21, 037					
Hosiery and knit goods—						
Hose and half hose—						
Woolen—						
Half hose, dozens.	3, 438					
Value.	\$11, 714					
Hose, dozens.	828					
Value.	\$3, 122					
Merino or mixed—						
Half hose, dozens.	852					
Value.	\$1, 806					
Cotton—						
Hose, dozens.	80					
Value.	\$180					
Leggins and gaiters, dozens.	207					
Value.	\$1, 656					
Gloves and mittens, dozens.	1, 238					
Value.	\$4, 611					
Elderdown shawls, dozens.	361, 000					
Value.	\$126, 403					
Boot and shoe linings, square yards.	11, 426					
Value.	\$8, 800					
Jersey cloth and stockinette, square yards.	2, 784					
Value.	\$1, 010					
All other products.	\$1, 190, 662				\$320, 303	
Amount received for contract work.	\$775, 445	\$368	\$300		\$18, 470	
Comparison of products:						
Number of establishments reporting for both years.	861	9	13	5	41	
Value for census year.	\$109, 712, 214	\$39, 955	\$42, 401	\$687, 354	\$7, 645, 096	
Value for preceding business year.	\$95, 443, 073	\$35, 422	\$40, 206	\$785, 822	\$6, 699, 210	
Power:						
Number of establishments reporting.	1, 024	10	11	5	51	
Total horsepower.	139, 645	235	224	560	11, 636	
Owned—						
Engines—						
Steam—						
Number.	893	3	7	7	58	
Horsepower.	82, 938	55	164	560	6, 315	
Gas or gasoline—						
Number.	12				1	
Horsepower.	191				25	
Water wheels—						
Number.	954	7	3		77	
Horsepower.	52, 358	176	41		5, 180	
Electric motors—						
Number.	51				4	
Horsepower.	1, 217				76	
Other power—						
Number.	2		1			
Horsepower.	4		2			
Rented—						
Electric, horsepower.	678		14			
Other kind, horsepower.	2, 264	4				
Furnished to other establishments, horsepower.	286					
Establishments classified by number of persons employed, not including proprietors and firm members:						
Total number of establishments.	1, 035	11	13	5	51	
No employees.	114	4	6		1	
Under 5.	186	6	4		1	
5 to 20.	158		2		2	
21 to 50.	146		1	1	5	
51 to 100.	155	1		2	19	
101 to 250.	194			2	19	
251 to 500.	61				4	
501 to 1,000.	19					
Over 1,000.	2					
		New Hamp- shire.	New Jersey.	New York.	North Carolina.	Ohio.
1 Number of establishments.	43	13	65	16	35	
Character of organization:						
2 Individual.	9	3	28	9	16	
3 Firm and limited partnership.	14	3	28	3	12	
4 Incorporated company.	20	7	14	4	7	
Capital:						
5 Total.	\$8, 160, 673	\$4, 549, 798	\$7, 338, 813	\$347, 890	\$1, 591, 445	
6 Land.	\$753, 850	\$248, 502	\$440, 506	\$18, 355	\$112, 745	
7 Buildings.	\$1, 187, 493	\$703, 322	\$949, 802	\$42, 400	\$280, 978	
8 Machinery, tools, and implements.	\$1, 372, 793	\$374, 970	\$1, 871, 495	\$30, 754	\$473, 411	
9 Cash and sundries.	\$4, 346, 637	\$2, 723, 004	\$4, 077, 450	\$196, 321	\$725, 311	
10 Proprietors and firm members.	87	1	73	11	28	

[illegible]

Oregon.	Pennsylvania.	Rhode Island.	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	West Virginia.	Wisconsin.	All other states. <sup>1</sup>
11	193	26	51	3	6	23	28	33	32	7
3	83	6	38	1	-----	10	-----	22	16	3
1	33	7	9	1	2	6	9	5	8	2
7	27	13	9	1	4	7	9	6	8	8
										4
\$1,175,820	\$19,405,505	\$6,068,078	\$2,399,518	\$285,668	\$454,981	\$3,001,347	\$788,527	\$688,683	\$1,794,055.	\$540,424
\$102,796	\$1,051,999	\$636,200	\$57,103	\$18,250	\$82,620	\$133,625	\$44,656	\$28,037	\$164,654	\$24,800
\$135,221	\$2,676,460	\$925,412	\$271,816	\$54,150	\$91,630	\$473,114	\$116,971	\$92,408	\$265,896	\$111,800
\$315,907	\$5,612,433	\$1,240,042	\$1,189,660	\$112,792	\$96,905	\$731,290	\$180,250	\$222,080	\$433,588	\$191,740
\$621,896	\$10,164,618	\$3,266,419	\$881,039	\$100,471	\$233,826	\$1,668,318	\$441,648	\$341,158	\$939,917	\$212,084
8	231	24	29	4	-----	21	15	12	26	10

<sup>1</sup>Includes establishments distributed as follows: Delaware, 2; Idaho, 1; Kansas, 1; North Dakota, 1; South Carolina, 1; Wyoming, 1.

TABLE 31.—WOOLEN GOODS:

		New Hamp- shire.	New Jersey.	New York.	North Carolina.	Ohio.
11	Salaried officials, clerks, etc.:					
12	Total number.....	120	43	210	17	57
13	Total salaries.....	\$152,574	\$85,619	\$231,783	\$9,065	\$64,776
14	Officers of corporations—					
15	Number.....	85	6	16	7	14
16	Salaries.....	\$49,602	\$23,500	\$53,775	\$3,625	\$18,800
17	General superintendents, managers, clerks, etc.—					
18	Total number.....	94	37	194	10	43
19	Total salaries.....	\$102,972	\$62,119	\$177,958	\$5,440	\$45,976
20	Men—					
21	Number.....	76	35	177	10	37
22	Salaries.....	\$95,270	\$60,775	\$171,793	\$5,440	\$43,616
23	Women—					
24	Number.....	18	2	17	—	6
25	Salaries.....	\$7,702	\$1,344	\$6,165	—	\$2,360
26	Wage-earners, including pieceworkers and total wages:					
27	Greatest number employed at any one time during the year.....	4,888	3,184	4,694	246	805
28	Least number employed at any one time during the year.....	3,551	2,716	3,338	170	634
29	Average number.....	4,042	2,942	4,033	206	636
30	Wages.....	\$1,571,520	\$1,013,232	\$1,399,527	\$39,094	\$201,547
31	Men, 16 years and over—					
32	Average number.....	2,657	1,690	1,913	106	266
33	Wages.....	\$1,181,594	\$685,439	\$827,179	\$25,675	\$110,850
34	Women, 16 years and over—					
35	Average number.....	1,299	1,065	1,974	91	311
36	Wages.....	\$428,829	\$301,580	\$549,258	\$12,755	\$87,037
37	Children, under 16 years—					
38	Average number.....	86	187	146	9	29
39	Wages.....	\$16,097	\$26,213	\$23,095	\$664	\$3,660
40	Average number of wage-earners, including pieceworkers, employed during each month:					
41	Men, 16 years and over—					
42	January.....	2,574	1,599	1,875	98	221
43	February.....	2,725	1,641	1,708	94	224
44	March.....	2,822	1,726	1,842	99	243
45	April.....	2,829	1,735	1,885	101	281
46	May.....	2,767	1,712	1,874	103	289
47	June.....	2,508	1,701	1,878	112	279
48	July.....	2,516	1,672	1,897	115	281
49	August.....	2,526	1,689	1,902	109	288
50	September.....	2,569	1,689	1,958	111	294
51	October.....	2,645	1,683	1,996	113	284
52	November.....	2,712	1,712	2,064	111	266
53	December.....	2,685	1,727	2,077	100	243
54	Women, 16 years and over—					
55	January.....	1,269	1,021	2,024	86	207
56	February.....	1,237	1,035	1,919	76	206
57	March.....	1,302	1,060	1,997	87	330
58	April.....	1,341	1,076	2,052	77	399
59	May.....	1,330	1,066	1,981	81	407
60	June.....	1,217	1,072	1,940	87	344
61	July.....	1,273	1,069	1,901	102	348
62	August.....	1,254	1,070	1,927	103	357
63	September.....	1,290	1,075	2,064	108	318
64	October.....	1,339	1,058	1,990	108	326
65	November.....	1,349	1,088	1,946	102	333
66	December.....	1,390	1,102	1,947	78	301
67	Children, under 16 years—					
68	January.....	93	176	133	6	22
69	February.....	89	185	135	6	28
70	March.....	88	189	138	6	27
71	April.....	84	194	140	4	30
72	May.....	87	196	140	5	31
73	June.....	76	185	144	13	29
74	July.....	80	177	147	14	35
75	August.....	83	180	150	11	34
76	September.....	87	185	150	14	30
77	October.....	87	185	152	10	30
78	November.....	88	197	157	12	29
79	December.....	89	191	160	9	29
80	Skilled operatives, average number:					
81	Spinners—					
82	Men, 16 years and over.....	536	176	328	12	73
83	Women, 16 years and over.....	28	94	308	—	39
84	Children, under 16 years.....	—	124	4	—	12
85	Weavers—					
86	Men, 16 years and over.....	967	467	401	4	27
87	Women, 16 years and over.....	807	650	561	32	126
88	Children, under 16 years.....	—	—	5	—	6
89	Knitters—					
90	Men, 16 years and over.....	—	—	—	—	—
91	Finishers—					
92	Men, 16 years and over.....	492	180	196	6	54
93	Women, 16 years and over.....	232	174	174	2	30
94	Children, under 16 years.....	7	7	14	—	—
95	Machinery:					
96	Sets of woolen cards.....	335	138	269	25	67
97	Combing machines, number.....	13	4	2	—	—
98	Of American manufacture.....	5	—	—	—	—
99	Of foreign manufacture.....	8	4	2	—	—
100	Spindles, number.....	125,532	61,672	88,249	5,334	23,953
101	Spinning—					
102	Woolen.....	113,604	56,878	81,180	5,080	22,652
103	Worsted.....	5,600	4,088	1,564	—	—
104	Cotton.....	—	—	—	—	—
105	Doubling—					
106	Woolen.....	3,320	756	4,629	254	1,801
107	Worsted.....	3,008	—	876	—	—
108	Cotton.....	—	—	—	—	—
109	Looms on woolen or worsted goods, number.....	2,071	1,240	1,425	161	342
110	Broad, 50 inches or over, reed space—					
111	On woolen goods.....	1,705	851	1,080	39	249
112	On worsted goods.....	33	25	110	—	18



BY STATES, 1900—Continued.

Oregon.	Pennsylvania.	Rhode Island.	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	West Virginia.	Wisconsin.	All other states. <sup>1</sup>
29	353	79	64	10	14	51	39	16	53	29
\$32,820	\$399,570	\$143,538	\$67,673	\$15,763	\$10,050	\$70,908	\$37,667	\$17,440	\$65,210	\$30,432
9	40	16	14	8	1	13	9	2	13	5
\$8,500	\$85,395	\$48,580	\$29,700	\$5,000	\$125	\$20,872	\$10,720	\$3,700	\$17,500	\$5,800
20	313	63	50	7	13	38	80	14	40	21
\$24,820	\$314,175	\$94,958	\$37,973	\$10,763	\$9,925	\$50,036	\$26,947	\$13,740	\$47,650	\$24,632
18	288	58	50	7	12	35	29	14	38	21
\$23,480	\$303,299	\$91,990	\$37,973	\$10,763	\$9,867	\$48,436	\$26,447	\$13,740	\$46,780	\$23,632
2	25	5			1	3	1		2	3
\$940	\$10,876	\$2,908			\$58	\$1,600	\$500		\$870	\$1,000
797	15,481	3,666	1,739	159	238	1,058	452	458	974	544
594	12,327	2,562	1,682	154	182	1,424	352	365	781	303
672	13,721	2,710	1,632	134	194	1,484	362	384	801	454
\$208,695	\$5,091,932	\$1,104,054	\$294,116	\$40,674	\$69,681	\$577,249	\$103,773	\$99,027	\$259,268	\$178,786
423	7,588	1,814	557	76	100	1,030	214	226	396	195
\$147,442	\$3,305,619	\$807,288	\$148,817	\$29,066	\$43,217	\$435,955	\$72,954	\$70,315	\$152,060	\$95,082
216	4,967	799	759	34	65	427	127	138	392	179
\$56,379	\$1,575,655	\$277,232	\$116,228	\$8,388	\$20,786	\$135,982	\$28,506	\$26,722	\$96,356	\$63,884
33	1,166	97	316	24	29	27	21	20	73	80
\$4,874	\$210,658	\$19,534	\$29,071	\$3,220	\$5,678	\$5,812	\$2,813	\$1,990	\$10,842	\$20,270
481	7,162	1,618	559	77	83	1,051	196	188	391	194
413	7,410	1,637	538	75	84	1,073	200	185	395	189
413	7,442	1,666	571	77	82	1,173	216	182	397	180
376	7,607	1,684	531	77	93	1,152	225	219	401	173
398	7,595	1,728	550	75	105	1,079	190	233	391	175
405	7,498	1,696	550	75	106	966	188	240	340	169
432	7,488	1,631	550	75	111	962	206	235	404	169
436	7,694	1,787	547	75	111	935	241	241	420	215
438	7,708	1,859	564	75	109	962	238	244	411	218
444	7,768	2,106	569	75	113	977	224	246	416	215
461	7,870	2,166	580	75	116	1,001	219	248	398	200
439	7,820	2,191	581	75	90	1,033	215	250	384	208
213	4,795	739	775	48	59	448	119	111	406	166
210	4,875	659	750	30	57	443	118	107	401	166
198	4,959	683	784	48	56	488	128	98	387	149
174	4,939	702	744	48	61	468	131	141	386	153
199	4,924	712	751	30	63	444	114	147	381	167
199	4,969	721	761	30	67	404	119	139	374	179
223	4,853	715	749	30	68	400	124	137	374	179
224	4,980	726	749	30	67	377	135	157	399	203
240	5,037	789	751	30	68	386	141	162	419	211
246	5,132	1,052	751	30	67	409	141	164	431	211
286	5,154	1,036	778	30	76	419	129	165	430	198
229	4,981	1,054	769	30	63	438	126	142	383	199
31	1,095	84	315	34	26	30	11	15	75	88
32	1,126	88	307	20	26	30	13	15	68	91
31	1,128	91	320	34	26	31	16	18	70	93
34	1,103	100	311	34	26	23	18	21	70	78
33	1,116	93	317	20	31	23	21	22	70	68
31	1,133	86	318	20	31	21	24	25	65	58
31	1,181	90	317	20	32	24	24	25	72	61
31	1,198	94	315	20	32	25	25	26	70	62
34	1,198	102	314	20	31	27	30	22	76	81
34	1,207	109	318	20	31	28	29	22	74	78
35	1,256	107	324	20	31	28	24	17	72	89
35	1,248	121	312	20	28	29	22	15	73	92
82	865	865	82	9	15	143	39	39	32	39
32	142	18	18	1	8	12	1	6	54	4
5	232		91	3	8	5	9	8	1	42
108	2,016	531	59	40	31	279	41		100	69
110	2,216	520	506	28	33	224	53	65	115	81
4	12		15	10	2	5	3	1	2	
51	423	200	31	11	10	105	28	47	46	41
44	315	203	9	6	4	73	3	11	49	80
3	48	8	2	5		3			2	
35	980	220	99	4	17	124	52	53	69	20
22	17						2	1	3	
12	13						2	1	8	
10	4									
12,187	343,169	124,082	38,654	2,600	6,974	38,920	14,322	14,180	25,904	11,048
11,199	307,118	100,190	33,035	2,600	6,192	37,460	13,171	13,520	22,760	10,172
9,000	2,464								912	
13,460	10,000	5,000			432					
988	13,317	8,928	619		350	1,460	1,151	660	1,878	876
	4,414	2,500							354	
	860									
175	8,057	1,418	1,239	94	94	670	221	242	272	276
172	2,379	602	143	48	73	561	130	157	236	71
696	282	282				5				

<sup>1</sup> Includes establishments distributed as follows: Delaware, 2; Idaho, 1; Kansas, 1; North Dakota, 1; South Carolina, 1; Wyoming, 1.

TABLE 31.—WOOLEN GOODS:

	New Hamp- shire.	New Jersey.	New York.	North Carolina.	Ohio.
Spindles, number—Continued.					
Looms on woolen or worsted goods, number—Continued.					
Narrow, under 50 inches, reed space—					
On woolen goods.....	333	364	216	122	75
On worsted goods.....			4		
Hand—					
On woolen or worsted goods.....			15		
Looms on carpets and rugs, number.....					
Ingrain—					
Hand.....					
Power.....					
Body Brussels—					
Power.....					
Formers for fur hats.....					
Braiders.....			9,628		
Knitting machines, number.....			7		6
Spring-beard needle—					
Circular, ribbed.....					
Circular, plain.....					
Latch needle—					
Flat, plain.....			7		
Full fashioned, flat, ribbed.....					
Circular, ribbed.....					6
Circular, plain.....					
Circular, hosiery, automatic.....					
Lamb and other variety, hand.....					
Miscellaneous expenses:					
Total.....	\$346,316	\$461,513	\$761,841	\$14,527	\$86,394
Rent of works.....	\$5,756	\$16,380	\$33,824		\$2,100
Taxes, not including internal revenue.....	\$39,490	\$30,021	\$23,906	\$1,443	\$7,936
Rent of offices, insurance, interest, and all sundry expenses not hitherto included.....	\$301,070	\$415,112	\$658,545	\$7,934	\$76,358
Contract work.....			\$40,566	\$5,150	
Material used:					
Total cost.....	\$4,741,396	\$2,700,889	\$3,499,864	\$204,961	\$869,236
Wool—					
Foreign, in condition purchased, pounds.....	1,098,990	115,797	800,110		7,025
Cost.....	\$306,024	\$33,318	\$272,142		\$1,426
Domestic, in condition purchased, pounds.....	10,201,314	3,883,063	5,000,556	577,750	1,551,667
Cost.....	\$2,554,191	\$1,603,959	\$1,360,111	\$147,445	\$375,004
Foreign and domestic, etc., scoured, pounds.....	6,122,739	3,299,612	4,342,006	403,395	1,039,775
Animal hair and fur—					
Camel, alpaca, and vicuna hair, pounds.....			2,396		
Cost.....			\$533		
Mohair, pounds.....	20,205				500
Cost.....	\$5,823				\$485
Buffalo, cow, and other animal hair and fur, pounds.....	142,414		789,000		1,927
Cost.....	\$6,995		\$41,130		\$135
Cotton, bales.....	5,535	2,604	1,811	10	751
Pounds.....	2,766,830	1,295,903	834,477	5,000	374,111
Cost.....	\$155,910	\$90,699	\$75,204	\$400	\$31,677
Materials not made in mill—					
Shoddy, pounds.....	4,181,362	86,000	560,501	38,365	217,940
Cost.....	\$353,251	\$12,885	\$101,190	\$6,553	\$29,470
Wool waste and noils, pounds.....	306,586	539,663	842,318	25,391	256,691
Cost.....	\$102,336	\$64,840	\$243,402	\$5,078	\$37,953
Camel, alpaca, vicuna noils, pounds.....	3,903				4,233
Cost.....	\$740				\$697
Mohair noils, pounds.....	12,840		11,500		
Cost.....	\$3,262		\$3,332		
Tops, pounds.....			14,616		
Cost.....			\$6,064		
Yarns not made in mill—					
Woolen, pounds.....	12,866	500	345,090		144,200
Cost.....	\$6,350	\$380	\$212,310		\$58,200
Worsted, pounds.....	40,638	116,060	245,517		64,518
Cost.....	\$31,031	\$32,192	\$259,638		\$41,461
Merino, pounds.....			14,500		2,000
Cost.....			\$6,900		\$1,000
Cotton, pounds.....	1,991,594	627,791	1,447,301	91,763	197,936
Cost.....	\$146,657	\$127,482	\$174,134	\$13,227	\$39,356
Silk, pounds.....			9,462		84
Cost.....			\$44,447		\$25
Spun silk, pounds.....	447		2,346		
Cost.....	\$1,617		\$2,957		
Linen, pounds.....					
Cost.....					
Jute, ramie, or other of vegetable fiber, pounds.....			25,000		10,120
Cost.....			\$1,010		\$1,328
Shoddy made in mill for use therein, pounds.....	2,251,639	3,059,698	630,084		897,397
Cost.....	\$260,000	\$186,667	\$43,697		\$111,069
All other materials which are component of the product.....	\$7,790		\$144,142	\$320	\$4,686
Soap, pounds.....	1,383,173	\$36,528	973,304	59,181	337,486
Cost.....	\$52,123	\$37,194	\$38,100	\$1,986	\$14,100
Oil for preparing wool for cards or combs, gallons.....	129,990	90,106	96,274	5,838	46,866
Cost.....	\$43,608	\$24,618	\$27,341	\$1,366	\$10,865
Chemicals and dyestuffs.....	\$265,354	\$217,272	\$193,351	\$10,517	\$61,795
Fuel.....	\$123,973	\$66,523	\$78,497	\$5,322	\$18,027
Rent of power and heat.....	\$3,423	\$7,600	\$5,740	\$1,687	\$20
Mill supplies.....	\$54,211	\$21,084	\$31,352	\$1,982	\$8,200
All other materials.....	\$179,881	\$70,421	\$88,029	\$1,804	\$11,234
Freight.....	\$76,341	\$53,755	\$45,111	\$7,274	\$10,963
Cotton yarn made in mill for use therein, pounds.....	45,000				2,000
Products:					
Total values.....	\$7,624,062	\$4,755,393	\$6,715,005	\$289,506	\$1,321,751
All-wool woolen goods, whether woolen or worsted—					
Wool cloths, doeskins, cassimeres, chevylots, tweeds, indigo flannels, and broadcloths, for men's wear, square yards.....	2,033,776	553,693	2,568,137	27,468	607,675
Value.....	\$1,290,897	\$412,320	\$1,982,270	\$19,772	\$189,735
Worsted coatings, serges, and suitings, for men's wear, square yards.....	115,962	98,731	93,075		150,000
Value.....	\$94,612	\$78,226	\$109,560		\$50,000
Woolen overcoatings, cloakings, kerseys, etc., for men's or women's wear, square yards.....	2,167,922	320,876	144,851		44,400
Value.....	\$1,570,343	\$279,299	\$145,411		\$26,346

BY STATES, 1900—Continued.

Oregon.	Pennsylvania.	Rhode Island.	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	West Virginia.	Wisconsin.	All other states. <sup>1</sup>	
3	3,912	530	1,096	36	21	104	90	81	36	205	91
	1,060	4		10							92
	10										93
	8						1	4			94
	6										95
	2										96
	500										97
	1,600										98
	50										99
	20										100
	5										101
	5										102
	16										103
	2										104
	2										105
	2										106
	2										107
	2										108
\$74,323	\$1,444,778	\$287,695	\$86,141	\$17,428	\$17,354	\$98,541	\$22,780	\$31,649	\$104,250	\$30,524	109
\$5,669	\$117,422	\$28,104	\$355	\$1,528	\$2,463	\$7,000	\$1,770	\$2,488	\$1,346	\$140	110
\$68,654	\$43,379	\$17,010	\$8,045	\$15,900	\$14,891	\$10,452	\$2,015	\$2,932	\$9,849	\$2,818	111
	\$1,014,810	\$212,476	\$77,741			\$81,014	\$18,125	\$26,229	\$92,080	\$27,706	112
	\$269,667	\$30,105				\$75	\$870		\$375		113
\$465,855	\$15,874,544	\$3,386,993	\$874,359	\$117,327	\$121,828	\$1,554,525	\$391,659	\$319,313	\$899,711	\$551,553	114
	13,308,519	337,445	101,766			341,902	9,000	3,000		395	115
	\$2,035,725	\$115,205	\$30,783			\$141,838	\$2,190	\$2,000		\$140	116
1,997,954	11,712,697	7,555,470	1,421,076	291,979	744,469	2,828,600	1,175,231	840,959	3,488,348	1,139,089	117
\$322,417	\$3,036,405	\$1,562,307	\$405,487	\$52,128	\$54,662	\$702,968	\$295,064	\$223,155	\$711,265	\$336,882	118
1,204,461	18,003,882	3,877,898	1,269,181	117,848	244,251	2,173,644	687,759	553,550	1,817,928	803,595	119
	121,513					75,058					120
	\$12,949					\$11,264					121
	4,181										122
	\$1,444										123
	16,876,816	410									124
	\$913,216	\$24									125
206	25,780	2,951	5,247	46	107	1,299	93	182	225	7,619	126
86,993	12,098,656	1,062,552	2,602,988	18,700	53,790	342,273	36,416	72,197	119,776	389,052	127
\$8,458	\$386,295	\$119,130	\$173,081	\$1,124	\$4,804	\$54,418	\$4,081	\$6,784	\$15,685	\$38,761	128
73,084	6,107,141	1,112,319	487,089	19,266	1,761	\$22,069	124,351	135,912	308,033	103,019	129
\$14,188	\$699,095	\$188,020	\$58,036	\$2,896	\$352	\$108,943	\$23,344	\$19,806	\$55,012	\$16,380	130
	5,230,394	\$20,368	5,000			\$7,223	15,000	40,000	30,248	105,378	131
	\$1,027,984	\$281,859	\$500			\$10,097	\$2,175	\$9,745	\$7,227	\$30,592	132
	45,977										133
	\$8,367										134
	35,907										135
	\$6,661					15,000					136
	4,000	254,811				\$3,000					137
	\$1,070	\$137,844				771					138
						\$419					139
	1,319,493	182,441	500				500				140
	\$560,453	\$66,098	\$225				\$225				141
	2,596,207	497,993					330			2,081	142
	\$1,767,860	\$347,110			270	4,974	70			\$1,422	143
	3,141,273				\$219	\$3,468	\$274	\$73			144
	\$500,439						3,392				145
20,391	9,417,582	200,817	586,833	68,000	10,422	214,312	65,018	90,220	22,989	6,001	146
\$5,578	\$1,712,056	\$46,973	\$100,497	\$20,417	\$2,222	\$44,887	\$11,477	\$11,583	\$5,211	\$323	147
	23,022										148
	\$92,216										149
	18,378	86				1,000					150
	\$58,373	\$283				\$3,750					151
	250										152
	\$48										153
	1,055,574	8,464	10,017								154
	\$51,057	\$1,272	\$1,802								155
280,876	8,954,396	470,830	20,688			1,325,120					156
\$27,157	\$459,586	\$35,324	\$1,522			\$181,888					157
	\$230,521	\$181		\$25,758		\$10,000	\$188				158
200,678	3,110,845	376,008	99,947	10,000	109,709	503,842	123,685	201,384	327,104	489,441	159
\$5,585	\$132,437	\$16,981	\$3,444	\$400	\$2,212	\$21,912	\$4,587	\$7,188	\$12,880	\$24,906	160
29,102	698,465	102,680	65,355	90	4,537	50,450	11,013	8,451	28,230	42,408	161
\$4,467	\$180,639	\$30,480	\$4,097	\$185	\$1,792	\$19,288	\$3,125	\$2,164	\$5,999	\$21,635	162
\$40,025	\$597,115	\$141,120	\$34,689	\$6,626	\$11,086	\$101,291	\$19,695	\$14,720	\$39,848	\$58,227	163
\$20,194	\$246,967	\$79,011	\$14,036	\$2,744	\$6,765	\$8,909	\$8,694	\$6,474	\$27,358	\$10,854	164
\$24	\$32,159	\$1,051	\$28			\$15	\$450	\$10	\$932		165
\$3,104	\$103,838	\$27,888	\$14,346	\$645	\$2,005	\$16,273	\$3,515	\$3,209	\$8,035	\$4,405	166
\$2,937	\$429,893	\$160,838	\$13,410		\$1,322	\$42,946	\$3,356	\$8,205	\$4,873	\$6,444	167
\$11,726	\$138,181	\$29,049	\$18,376	\$4,409	\$3,487	\$26,981	\$7,771	\$5,632	\$4,786	\$3,582	168
3,000	1,301,019	147,184	138,129		4,740	50,000					169
\$897,824	\$25,889,344	\$5,380,550	\$1,517,194	\$196,340	\$222,343	\$2,572,646	\$327,581	\$507,300	\$1,435,368	\$790,081	170
566,107	1,652,012	1,735,526	10,404	26,865	488	408,989	266,948	33,385	391,594	148,257	171
\$861,147	\$1,128,958	\$1,308,525	\$4,053	\$10,802	\$422	\$354,199	\$236,212	\$16,620	\$227,515	\$150,219	172
878	859,429	825,253						1,500			173
\$1,000	\$525,090	\$879,439						9,000			174
\$70,095	1,408,734	614,586			330	1,072,946	154,344		297,346	5,085	175
\$127,827	\$1,225,888	\$698,244			\$330	\$773,190	\$110,041	\$3,600	\$179,915	\$3,594	176

<sup>1</sup> Includes establishments distributed as follows: Delaware, 2; Idaho, 1; Kansas, 1; North Dakota, 1; South Carolina, 1; Wyoming, 1.

TABLE 31.—WOOLEN GOODS:

		New Hamp- shire.	New Jersey.	New York.	North Carolina.	Ohio.
176	Products—Continued. Total value—Continued. All wool woolen goods, whether woolen or worsted—Continued. Worsted overcoatings and cloakings, for men's or women's wear, square yards.		372,924			
177	Value.....		\$198,892			
178	Wool dress goods, sackings, tricots, ladies' cloth, broadcloth, and other all-wool goods for women's wear, and opera and similar flannels, square yards.	3,545,096	42,021	2,349,657	1,646	200,446
179	Value.....	\$1,432,063	\$33,095	\$956,169	\$823	\$36,389
180	Worsted dress goods, cassimeres, serges, and other worsted goods for women's wear, and buntings, square yards.			217,195		
181	Value.....			\$125,644		
182	Carriage cloths of all weights, square yards.....	1,087		247,998		6,000
183	Value.....	\$807		\$222,725		\$8,000
184	Flannels for underwear, square yards.....	252,489	2,813	51,972	1,718	27,067
185	Value.....	\$31,402	\$1,125	\$17,168	\$474	\$9,090
186	Blankets, square yards.....	56,875		7,920		285,633
187	Value.....	\$35,332		\$4,750		\$132,045
188	Horse blankets, square yards.....			600		4,783
189	Value.....			\$500		\$3,400
190	Carriage robes, square yards.....					
191	Value.....			93,921		400
192	Woven shawls, square yards.....			\$77,041		\$180
193	Value.....					
194	Union, or cotton mixed, woven goods— Unions, tweeds, chevots, cassimeres, or other goods for men's wear, square yards.	1,081,060	2,103,591	439,781		
195	Value.....	\$441,963	\$1,874,030	\$138,771		
196	Overcoatings and cloakings, square yards.....	52,949	130,308	138,768		
197	Value.....	\$26,860	\$102,942	\$130,454		
198	Sackings, tricots, and dress goods for women's wear, and opera and similar flannels, square yards.	2,259,929		712,132		120,000
199	Value.....	\$673,175		\$246,817		\$68,000
200	Flannels for underwear, square yards.....	622,651		221,400		100,460
201	Value.....	\$116,837		\$40,356		\$24,100
202	Blankets, square yards.....					52,500
203	Value.....					\$22,500
204	Horse blankets, square yards.....					72,000
205	Value.....					\$36,000
206	Carriage robes, square yards.....					15,000
207	Value.....					\$27,500
208	Goods woven on cotton warps, with weft partly or wholly of wool, worsted, or hair, or cotton weft with warp of wool— Wool-filling cassimeres, doeskins, jeans, tweeds, coatings, suitings, and other cotton-warp goods for men's wear, not specified below, square yards.	988,474	1,164,768	1,087,925	319,212	221,197
209	Value.....	\$465,976	\$462,831	\$419,025	\$97,670	\$89,773
210	Worsted-filling cassimeres, doeskins, jeans, tweeds, coatings, suitings, and other cotton-warp goods for men's wear, not specified below, square yards.	75,000		64,822	7,445	
211	Value.....	\$35,000		\$64,822	\$3,254	
212	Wool-filling overcoatings and cloakings, square yards.....	5,475	2,364,063			
213	Value.....	\$3,650	\$930,106			
214	Astrakhans and similar goods, square yards.....					15,000
215	Value.....					\$1,000
216	Satinets and linseys, square yards.....	648,267			26,404	4,230
217	Value.....	\$86,166			\$8,202	\$3,140
218	Worsted-filling dress goods, delaines, cassimeres, serges, mohairs, alpacas, and other stuffs, for women's wear, square yards.			91,009		23,500
219	Value.....					\$3,843
220	Wool-filling dress goods and repellents, square yards.....	1,739,682	432,202	\$49,752		15,000
221	Value.....	\$390,276	\$118,855	\$62,242		\$10,000
222	Domest flannels and shirtings, square yards.....	12,800	42,750	591,454		30,000
223	Value.....	\$3,200	\$50,000	\$100,585		\$6,000
224	Linings, Italian cloths, and lastings, square yards.....	551,011				
225	Value.....	\$36,734				
226	Cotton-warp blankets, square yards.....	477,856		115,500	263,599	209,658
227	Value.....	\$133,724		\$32,580	\$102,409	\$34,523
228	Horse blankets, square yards.....	1,387,015		227,500		537,500
229	Value.....	\$323,387		\$44,375		\$215,000
230	Carriage robes, square yards.....			150,000		32,000
231	Value.....			\$180,000		\$24,000
232	Upholstery goods and sundries— Woolen and worsted upholstery goods, square yards					
233	Value.....					
234	Other upholstery goods.....			\$1,334,658		
235	Carpets and rugs— Carpets— Ingrain, 2-ply, square yards.....					
236	Value.....					
237	Ingrain, 3-ply, square yards.....					
238	Value.....					
239	Felt goods— Felt cloths, square yards.....				1,025	
240	Value.....				\$963	
241	Trimming and lining felts, felt skirts and skirting, table and piano covers, saddle felts, square yards.					2,700
242	Value.....					\$325
243	All other felts.....					
244	Hats— Wool hats, dozens.....			\$3,029		
245	Value.....					12,000
246	Partly manufactured products for sale— Woolen yarn—all wool, pounds.....	48,093		491,900	89,204	190,250
247	Value.....	\$22,141		\$80,490	\$48,965	\$89,895
248	Worsted yarn and tops, pounds.....	354,453	300,000			
249	Value.....	\$177,584	\$210,000			
250	Woolen or worsted yarn, union or merino, cotton mixed, pounds.....	161,638		350,000		302,853
251	Value.....	\$45,671		\$105,000		\$92,557
252	Mohair and similar yarn, pounds.....					
253	Value.....					
254	Cotton yarn, pounds.....	8,000				
255	Value.....	\$1,600				
256	Wool card rolls, pounds.....	1,000		45,465	14,475	6,775
257	Value.....	\$500		\$23,290	\$6,358	\$3,588
258	Noils, pounds.....					
259	Value.....					

BY STATES, 1900—Continued.

Oregon.	Pennsylvania.	Rhode Island.	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	West Virginia.	Wisconsin.	All other states. <sup>1</sup>	
1,296	401,280									3,728	176
\$1,867	\$202,815									\$3,724	177
1,101	2,397,543	18,270			39,151	1,376,534	19,125	188,889	44,970	143,543	178
\$381	\$1,040,031	\$18,270			\$17,571	\$500,562	\$6,700	\$56,961	\$41,277	\$76,370	179
1,735	1,890,441	14,394						2,726			180
\$1,490	\$775,069	\$9,596						\$1,363			181
	20,000	64,917									182
	\$16,800	\$48,181									183
304,273	633,091		5,047		7,438	110,000	6,013	362,212	309,412	20,218	184
\$90,877	\$238,201		\$1,584		\$2,281	\$34,000	\$2,725	\$89,076	\$103,899	\$12,306	185
206,797	1,463,544		29,686		18,843	30,000	31,605	24,413	351,555	215,017	186
\$180,626	\$554,913		\$15,234		\$8,028	\$9,000	\$15,484	\$9,599	\$126,273	\$127,175	187
	173,227					80,000					188
	\$65,959					\$12,000					189
											190
	331,184				5,299				19,784	10,052	191
	\$236,331				\$2,983				\$21,698	\$26,616	192
150,000	11,032,137	1,165,363	521,382	17,229	99,527	669,461			472,732	804,173	194
\$40,000	\$3,108,779	\$732,578	\$293,822	\$9,283	\$53,701	\$234,949			\$286,625	\$357,948	195
\$99	2,287,661	250,696									196
\$335	\$1,146,490	\$213,772									197
	820,393	79,686			14,445	401,564					198
	\$45,383	\$47,856			\$93,960	\$113,940					199
62,466	625,300					914,075	3,000	91,563	135,020		200
\$25,088	\$275,105					\$116,099	\$700	\$21,331	\$36,005		201
51,552	23,660				1,531	175,000	19,930	317,450	47,667	1,600	202
\$36,915	\$12,195				\$380	\$25,000	\$7,280	\$84,623	\$29,164	\$1,600	203
	719,664					150,000					204
	\$110,918					\$30,000					205
		34,125									206
		\$23,887									207
	8,053,311	1,755,954	4,438,883	457,553	763		339,423	323,475			208
	\$2,176,211	\$444,173	\$344,294	\$135,283	\$407		\$155,569	\$163,190			209
	10,000	12,960	609,141					40			210
	\$8,000	\$9,082	\$108,332					\$20			211
	142,058					273,375					212
	\$138,141					\$97,431					213
											214
	75,765		110,093		34,183	825,070	24,790	600	2,750	5,009	215
	\$7,534		\$33,060		\$16,986	\$243,704	\$15,814	\$240	\$1,100	\$1,880	216
	6,004,325	52,557			1,103						217
	\$1,878,835	\$24,088			\$582						218
	1,708,237				480						219
	\$528,885				\$320		314	72,000			220
	1,639,745		1,650		\$320		\$331	\$13,280			221
	\$253,373		\$530		859	35,783		100			222
	437,900				\$572	\$7,299		\$45			223
	\$57,520										224
	6,665,804		3,325		10,721		20,319	3,533	23,472	346	225
\$7,500	\$991,634		\$1,416		\$10,396		\$8,054	\$2,000	\$6,157	\$103	226
\$23,000	2,291,495								2,250		227
	\$404,727								\$980		228
							1,005		43,606		229
7,042							\$1,512		\$130,190		230
\$3,086											231
	5,200										232
	\$4,400										233
	\$633,174										234
											235
	2,650										236
	\$1,265										237
	543										238
	\$380										239
											240
							33				241
							\$50				242
											243
											244
											245
500	26,182,718	579,528	120,540		17,934	19,811	95,445	39,008	87,687	5,813	246
\$300	\$4,444,560	\$253,419	\$52,784		\$10,225	\$12,126	\$50,410	\$20,013	\$46,992	\$3,056	247
	989,530								250,000		248
	\$148,048								\$157,737		249
	10,957,382	1,187,639					9,959	977	6,770		250
	\$1,689,446	\$684,011					\$4,375	\$487	\$4,062		251
	15,947										252
	\$19,133										253
	2,355,964		827,902								254
	\$362,169		\$92,155								255
	\$9,542		163,683	3,000	4,980	16,700	22,125	87,873	49,880	1,500	256
9,800	\$24,216		\$97,016	\$1,200	\$2,125	\$8,470	\$8,998	\$17,872	\$23,769	\$750	257
\$4,050											258
											259

<sup>1</sup> Includes establishments distributed as follows: Delaware, 2; Idaho, 1; Kansas, 1; North Dakota, 1; South Carolina, 1; Wyoming, 1.

TABLE 31.—WOOLEN GOODS:

	New Hamp- shire.	New Jersey.	New York.	North Carolina.	Ohio.
Products—Continued.					
Total value—Continued.					
Partly manufactured products for sale—Continued.					
Waste, pounds.....					
Value.....	175,681		20,000		7,553
Shoddy, pounds.....	\$12,187		\$200		\$718
Value.....			\$150		
Flocks, pounds.....			\$75		
Value.....	15,714				2,400
Hosiery and knit goods—	\$880				\$240
Hose and half hose—					
Woolen—					
Half hose, dozens.....					
Value.....					
Hose, dozens.....					
Value.....					25
Merino or mixed—					\$90
Half hose, dozens.....					
Value.....					
Cotton—					
Hose, dozens.....					
Value.....					
Leggins and gaiters, dozens.....					
Value.....					
Gloves and mittens, dozens.....					
Value.....					
Elderdown shawls, dozens.....					
Value.....					
Boot and shoe linings, square yards.....					
Value.....					
Jersey cloth and stockinette, square yards.....					
Value.....					
All other products.....					
Amount received for contract work.....	\$120,065	\$1,832	\$11,516		\$52,880
Comparison of products:	\$1,060	\$2,340	\$1,730	\$616	\$2,541
Number of establishments reporting for both years.....	39	13	48	16	32
Value for census year.....	\$7,431,699	\$4,755,393	\$4,260,559	\$289,506	\$1,225,970
Value for preceding business year.....	\$6,067,605	\$4,513,753	\$3,956,999	\$302,567	\$1,170,666
Power:					
Number of establishments reporting.....	40	13	64	16	35
Total horsepower.....	10,391	5,128	8,517	608	1,885
Owned—					
Engines—					
Steam—					
Number.....	32	25	49	6	33
Horsepower.....	3,535	3,048	4,133	305	1,496
Gas or gasoline—					
Number.....					
Horsepower.....			2		1
Water wheels—			36		12
Number.....	82	10	71	16	15
Horsepower.....	6,469	905	4,101	253	276
Electric motors—					
Number.....	7		4		2
Horsepower.....	225		166		52
Other power—					
Number.....	1				
Horsepower.....	2				
Rented—					
Electric, horsepower.....	50		4	50	
Other kind, horsepower.....	50	275	77		
Furnished to other establishments, horsepower.....					
Establishments classified by number of persons employed, not including proprietors and firm members:					5
Total number of establishments.....	43	13	65	16	35
No employees.....	2	1	15	3	1
Under 5.....	1	1	7	6	13
5 to 20.....	4		13	3	7
21 to 50.....	2		10	1	7
51 to 100.....	13	1	5	3	6
101 to 250.....	14	4	9		1
251 to 500.....	5	4	5		
501 to 1,000.....	1		1		
Over 1,000.....	1	2			

WOOL.

153.

BY STATES, 1900—Continued.

[illegible]

<sup>1</sup> Includes establishments distributed as follows: Delaware, 2; Idaho, 1; Kansas, 1; North Dakota, 1; South Carolina, 1; Wyoming, 1.



## MANUFACTURES.

TABLE 32.—WORSTED GOODS: BY STATES, 1900.

	United States.	Connecticut.	Maine.	Massachusetts.	New Jersey.	New York.	Pennsylvania.	Rhode Island.	All other states. <sup>1</sup>
Number of establishments.....	186	10	3	45	11	7	51	51	8
Character of organization:									
Individual.....	48	.....	.....	10	3	.....	15	18	1
Firm and limited partnership.....	60	1	.....	12	4	4	29	11	.....
Incorporated company.....	83	9	3	23	4	3	7	27	7
Capital:									
Total.....	\$132,168,110	\$5,054,659	\$1,486,635	\$45,790,300	\$12,080,721	\$8,809,390	\$19,396,558	\$34,949,769	\$4,600,073
Land.....	\$8,731,982	\$266,900	\$17,500	\$2,988,592	\$171,902	\$515,170	\$417,832	\$2,174,879	\$178,207
Buildings.....	\$13,279,427	\$192,208	\$110,081	\$4,539,224	\$1,608,247	\$802,700	\$1,609,471	\$3,799,161	\$318,233
Machinery, tools, and implements.....	\$27,026,759	\$849,305	\$250,489	\$8,585,662	\$2,643,417	\$1,868,341	\$5,085,186	\$7,098,313	\$696,046
Cash and sundries.....	\$85,129,942	\$3,446,246	\$1,108,565	\$29,676,822	\$7,657,155	\$5,623,179	\$12,334,069	\$21,877,416	\$3,406,490
Proprietors and firm members.....	127	1	2	27	13	8	35	83	2
Salaries:									
Total number.....	1,369	56	27	503	112	134	188	322	27
Total salaries.....	\$2,842,218	\$121,733	\$26,782	\$796,250	\$197,984	\$267,367	\$277,081	\$593,869	\$61,102
Officers of corporations—									
Number.....	117	14	2	35	7	5	11	31	12
Salaries.....	\$440,492	\$41,200	\$6,000	\$117,004	\$27,300	\$36,095	\$34,275	\$139,218	\$39,400
General superintendents, managers, clerks, and salesmen—									
Total number.....	1,252	42	25	468	105	129	177	291	15
Total salaries.....	\$1,901,726	\$80,533	\$20,782	\$679,246	\$170,684	\$231,272	\$242,806	\$454,651	\$21,702
Men—									
Number.....	1,130	41	19	406	104	123	163	262	12
Salaries.....	\$1,837,907	\$79,833	\$18,593	\$646,037	\$170,320	\$227,695	\$236,635	\$438,267	\$20,522
Women—									
Number.....	122	1	6	62	1	6	14	29	3
Salaries.....	\$68,819	\$750	\$2,184	\$33,209	\$364	\$8,677	\$6,171	\$16,384	\$1,180
Wage-earners, including pieceworkers, and total wages:									
Greatest number employed at any one time during the year.....	64,036	2,434	955	21,035	4,907	4,028	11,335	16,704	2,543
Least number employed at any one time during the year.....	49,848	1,905	785	16,414	2,967	3,276	8,852	13,458	2,191
Average number.....	57,008	2,193	875	18,867	3,910	3,726	10,201	14,896	2,335
Wages.....	\$20,092,738	\$846,901	\$305,363	\$7,055,585	\$1,097,197	\$1,201,223	\$3,337,491	\$5,537,169	\$711,864
Men, 16 years and over—									
Average number.....	25,595	1,379	864	9,330	1,247	1,613	3,776	7,170	665
Wages.....	\$11,300,071	\$609,947	\$154,958	\$4,177,429	\$513,670	\$645,539	\$1,708,640	\$3,200,452	\$289,436
Women, 16 years and over—									
Average number.....	25,829	661	420	8,410	2,207	1,787	4,596	6,342	1,456
Wages.....	\$7,831,109	\$209,410	\$131,809	\$2,654,009	\$520,486	\$508,777	\$1,309,610	\$2,104,585	\$397,423
Children, under 16 years—									
Average number.....	5,584	163	91	1,077	456	376	1,829	1,384	213
Wages.....	\$961,558	\$27,544	\$18,596	\$224,147	\$68,041	\$51,912	\$319,241	\$232,132	\$24,945
Average number of wage-earners, including pieceworkers, employed during each month:									
Men, 16 years and over—									
January.....	24,947	1,350	339	9,044	967	1,581	3,584	6,574	603
February.....	24,292	1,259	344	9,041	1,043	1,622	3,633	6,723	624
March.....	24,576	1,284	345	9,258	1,047	1,645	3,647	6,973	637
April.....	25,239	1,313	354	9,338	1,121	1,662	3,665	7,179	632
May.....	25,839	1,406	360	9,168	1,149	1,601	3,812	7,265	623
June.....	25,047	1,343	365	9,185	1,180	1,523	3,811	6,987	633
July.....	25,161	1,397	367	9,100	1,158	1,618	3,706	7,143	679
August.....	25,616	1,397	371	9,180	1,319	1,595	3,754	7,305	695
September.....	26,022	1,409	373	9,343	1,396	1,595	3,838	7,361	702
October.....	26,719	1,441	384	9,760	1,471	1,642	3,905	7,401	715
November.....	26,728	1,440	371	9,516	1,517	1,658	3,953	7,557	711
December.....	27,044	1,485	390	9,727	1,556	1,616	3,998	7,569	703
Women, 16 years and over—									
January.....	24,100	653	393	7,921	1,809	1,746	4,239	5,946	1,333
February.....	24,578	629	395	8,089	1,825	1,769	4,378	6,087	1,406
March.....	24,917	611	403	8,179	1,918	1,778	4,380	6,236	1,442
April.....	25,322	654	404	8,439	1,917	1,756	4,423	6,322	1,407
May.....	25,691	665	408	8,477	2,020	1,697	4,668	6,347	1,409
June.....	25,675	649	414	8,538	2,072	1,618	4,672	6,232	1,430
July.....	25,493	645	423	8,340	2,186	1,680	4,557	6,211	1,451
August.....	25,830	649	418	8,269	2,327	1,686	4,623	6,373	1,494
September.....	26,072	689	423	8,420	2,423	1,693	4,605	6,309	1,505
October.....	26,882	686	445	8,616	2,549	1,777	4,814	6,489	1,506
November.....	27,596	704	457	8,758	2,698	1,828	4,896	6,733	1,517
December.....	27,753	704	455	8,820	2,737	1,824	4,906	6,793	1,514
Children, under 16 years—									
January.....	5,323	156	83	1,017	396	368	1,743	1,358	202
February.....	5,477	151	87	1,046	413	365	1,730	1,381	204
March.....	5,429	151	85	1,059	425	371	1,808	1,366	204
April.....	5,483	152	86	1,071	426	377	1,785	1,380	206
May.....	5,567	162	83	1,072	409	362	1,806	1,399	209
June.....	5,503	152	93	1,049	440	346	1,856	1,353	214
July.....	5,558	154	93	1,033	466	376	1,802	1,410	219
August.....	5,577	153	92	1,043	471	375	1,836	1,390	217
September.....	5,700	160	97	1,076	502	407	1,855	1,381	222
October.....	5,721	168	93	1,126	495	390	1,861	1,363	219
November.....	5,829	165	96	1,143	523	388	1,883	1,402	224
December.....	5,846	172	95	1,182	511	384	1,859	1,424	219
Skilled operatives, average number:									
Spinners—									
Men, 16 years and over.....	1,995	64	8	482	238	248	543	373	39
Women, 16 years and over.....	4,852	62	90	1,152	306	447	1,773	937	95
Children, under 16 years.....	1,580	15	28	298	112	158	662	287	50
Weavers—									
Men, 16 years and over.....	7,426	693	83	2,178	271	486	788	2,833	44
Women, 16 years and over.....	6,194	66	28	2,218	597	859	625	1,120	851
Children, under 16 years.....	62	.....	.....	.....	.....	44	5	13	.....
Finishers—									
Men, 16 years and over.....	2,789	128	31	1,411	71	251	319	568	10
Women, 16 years and over.....	2,932	178	60	1,199	22	255	319	809	.....
Children, under 16 years.....	78	1	7	89	.....	.....	6	25	.....
Machinery:									
Sets of woolen cards.....	635	72	5	181	29	24	128	246	.....
Combing machines, number.....	1,194	8	14	353	121	64	318	270	41
Of American manufacture.....	214	.....	.....	103	6	16	29	50	10
Of foreign manufacture.....	980	8	14	250	115	48	289	220	31

<sup>1</sup>Includes states having less than 3 establishments in order that the operations of individual establishments may not be disclosed. These establishments are distributed as follows: Kentucky, 1; New Hampshire, 2; Ohio, 1; Vermont, 1; West Virginia, 1; Wisconsin, 2.

<sup>2</sup>Includes items as follows: Cotton upholstering plush, \$98,000; mohair matchings, \$14,127; waste, \$10,293; all-cotton goods, \$50,930; worsted and cotton twists, \$19,748.

TABLE 32.—WORSTED GOODS: BY STATES, 1900—Continued.

	United States.	Connecticut.	Maine.	Massachusetts.	New Jersey.	New York.	Pennsylvania.	Rhode Island.	All other states. <sup>1</sup>
<b>Machinery—Continued.</b>									
Spindles, number.....	1,871,026	47,444	9,300	429,526	107,884	89,149	250,854	403,017	34,352
Spinning—									
Woolen.....	133,504	25,460		33,674	4,140	9,968	16,374	43,888	
Worsted.....	842,730	12,214	6,500	263,594	78,888	53,354	175,566	222,182	30,432
Cotton.....	91,152			50,032				41,120	
Doubling—									
Woolen.....	16,522	3,230		2,524		3,579	996	6,193	
Worsted.....	282,914	6,540	2,800	79,654	24,856	22,248	57,418	85,478	3,920
Cotton.....	4,204			48				4,156	
Looms on woolen or worsted goods, number.....	26,372	884	199	9,584	1,894	1,615	2,619	6,589	3,638
Broad, 60 inches or over, reed space—									
On woolen goods.....	2,240	88		424	150	18	320	86	1,154
On worsted goods.....	14,699	700	162	4,409	1,174	1,003	1,718	4,811	632
Narrow, under 60 inches, reed space—									
On woolen goods.....	950	10			70	7	209	654	
On worsted goods.....	8,481	35	37	4,691		487	372	1,007	1,852
Hand—									
On woolen or worsted goods.....	2	1						1	
Bradders.....	2,830			500			630	1,700	
<b>Miscellaneous expenses:</b>									
Total.....	\$6,707,611	\$310,267	\$190,380	\$1,681,861	\$527,527	\$241,410	\$1,686,689	\$1,833,985	\$295,492
Rent of works.....	\$286,920	\$10,016	\$500	\$46,539	\$7,400	\$1,832	\$116,023	\$104,610	
Taxes, not including internal revenue.....	\$380,210	\$19,829	\$1,117	\$186,366	\$16,611	\$20,638	\$20,749	\$92,150	\$22,750
Rent of offices, insurance, interest, and all sundry expenses not hitherto included.....	\$5,121,974	\$273,235	\$188,763	\$1,362,980	\$459,165	\$218,940	\$1,133,745	\$1,335,015	\$150,181
Contract work.....	\$978,507	\$7,187		\$86,026	\$44,351		\$416,172	\$302,210	\$122,561
<b>Materials used:</b>									
Total cost.....	\$77,075,222	\$2,971,926	\$1,102,307	\$25,315,707	\$4,547,694	\$3,406,918	\$14,787,134	\$21,490,592	\$3,502,944
Wool—									
Foreign, in condition purchased, pounds.....	57,263,393	776,154	711,000	24,850,427	4,734,448	504,757	15,331,105	9,504,898	\$50,604
Cost.....	\$15,159,048	\$266,400	\$142,200	\$6,511,450	\$1,411,072	\$158,035	\$3,619,895	\$2,779,182	\$270,514
Domestic, in condition purchased, pounds.....	122,714,543	2,400,394	268,500	39,012,421	8,957,098	10,338,442	20,390,877	33,459,274	7,887,537
Cost.....	\$29,147,093	\$643,239	\$61,755	\$9,106,578	\$1,951,047	\$2,163,772	\$6,575,285	\$6,771,448	\$1,873,969
Foreign and domestic, etc., scoured, pounds.....	103,938,616	1,744,604	658,800	35,231,431	6,113,858	5,209,033	29,652,613	20,006,151	4,822,576
Animal hair and fur—									
Camel, alpaca, and vicuna hair, pounds.....	1,742,573		129,500	1,562,491			50,000	582	
Cost.....	\$391,332		\$49,210	\$329,040			\$12,500	\$582	
Mohair, pounds.....	1,905,967		858,000	256,347			10,102	781,518	
Cost.....	\$972,207		\$265,980	\$117,991			\$1,850	\$580,386	
Buffalo, cow, and other animal hair and fur, pounds.....	855,898						855,898		
Cost.....	\$79,960						\$79,960		
Cotton, bales.....	12,079	6		4,425	29	1	1,112	6,507	
Pounds.....	5,276,751	2,500		2,562,632	14,965	508	223,364	2,472,732	
Cost.....	\$524,515	\$375		\$250,878	\$957	\$37	\$31,157	\$241,111	
<b>Materials not made in mill—</b>									
Shoddy, pounds.....	1,807,827	116,292		643,563	16,093	14,817	28,129	988,933	
Cost.....	\$303,644	\$17,555		\$93,891	\$3,038	\$3,253	\$1,640	\$181,267	
Wool waste and noils, pounds.....	1,895,867	157,832		184,747	265,000		92,939	1,135,349	
Cost.....	\$558,494	\$66,098		\$55,471	\$104,997		\$25,023	\$306,905	
Camel, alpaca, and vicuna noils, pounds.....	55,679			3,238			52,441		
Cost.....	\$12,856			\$848			\$12,008		
Tops, pounds.....	5,260,775	58,493		1,490,776	532,958		543,853	2,620,226	14,969
Cost.....	\$2,701,582	\$34,580		\$705,605	\$300,164		\$291,944	\$1,361,520	\$7,769
<b>Yarns not made in mill—</b>									
Woolen, pounds.....	2,847,091	10,301	95,000	477,831	282,500		969,523	991,837	20,099
Cost.....	\$1,402,189	\$6,592	\$45,305	\$280,323	\$169,100		\$372,045	\$516,803	\$11,956
Worsted, pounds.....	18,896,863	1,737,214	584,172	4,870,023	258,860	380,514	2,940,497	7,296,627	\$28,951
Cost.....	\$14,704,172	\$1,500,184	\$381,451	\$4,257,607	\$174,401	\$232,263	\$2,130,476	\$5,378,892	\$592,898
Merino, pounds.....	419,434			172,488	500		130,756	115,690	
Cost.....	\$147,891			\$34,554	\$200		\$59,561	\$53,576	
Cotton, pounds.....	13,420,590	572,875	69,170	2,640,290	338,932	965,014	2,638,932	3,973,373	2,175,540
Cost.....	\$3,032,039	\$114,407	\$22,583	\$842,712	\$62,920	\$214,838	\$561,249	\$895,521	\$317,809
Silk, pounds.....	26,418	184		16		1,350	5,845	18,688	35
Cost.....	\$144,971	\$1,332		\$96		\$3,712	\$56,243	\$82,046	\$1,542
Spun silk, pounds.....	47,533	219		17,621	1,806		2,729	25,143	
Cost.....	\$106,672	\$854		\$63,922	\$4,965	\$101	\$8,777	\$38,053	
Linen, pounds.....	1,314			284				1,030	
Cost.....	\$1,052			\$229				\$823	
<b>All other materials which are components of the product.</b>									
Soap, pounds.....	\$74,535				\$1,317	\$54,073	\$13,429	\$5,716	
Cost.....	13,436,089	734,431	261,011	5,408,939	577,905	1,016,293	2,361,358	2,845,308	250,844
Oil, for preparing wool for cards or combs, gallons.....	488,703	21,491	5,895	144,241	31,398	14,230	149,338	112,939	8,676
Cost.....	\$221,981	\$8,199	\$3,046	\$63,130	\$14,888	\$6,980	\$60,997	\$59,874	\$5,372
Chemicals and dyestuffs.....	\$2,627,140	\$121,729	\$25,896	\$869,968	\$91,879	\$235,681	\$190,253	\$377,948	\$213,786
Fuel.....	\$1,226,938	\$54,894	\$29,418	\$449,231	\$62,571	\$65,628	\$161,151	\$348,314	\$55,081
Rent of power and heat.....	\$79,338		\$10,450	\$34,368	\$4,204		\$22,355	\$7,461	
Mill supplies.....	\$564,150	\$18,859	\$6,500	\$182,460	\$24,892	\$28,875	\$108,710	\$185,061	\$8,193
All other materials.....	\$1,818,608	\$54,788	\$27,828	\$761,558	\$100,635	\$113,721	\$126,399	\$516,156	\$117,523
Freight.....	\$527,418	\$33,511	\$20,679	\$147,320	\$41,562	\$36,472	\$109,837	\$123,329	\$15,158
<b>Cotton yarn made in mill for use therein, pounds.....</b>	3,237,131			1,956,949				1,230,182	
<b>Products:</b>									
Total value.....	\$120,314,344	\$4,539,814	\$1,779,552	\$40,567,863	\$6,823,721	\$5,958,259	\$22,109,392	\$33,341,329	\$5,204,914
All-wool woven goods, whether woolen or worsted:									
Woolcloths, doeskins, cassimeres, chevots, tweeds, indigo flannels, and broadcloths, for men's wear, square yards.....	3,582,788	719,351		2,094,678	33,000	58,462	9,000	658,797	9,500
Value.....	\$2,508,918	\$601,636		\$1,396,451	\$9,530	\$60,072	\$9,000	\$413,229	\$19,000
Worsted coatings, serges, and suitings, for men's wear, square yards.....	50,204,672	2,180,270	663,508	21,180,544	770,128	3,039,235	3,831,644	16,029,693	1,909,550
Value.....	\$39,552,773	\$2,523,127	\$364,074	\$17,413,922	\$539,090	\$2,527,599	\$2,619,437	\$12,584,943	\$980,581
Woolen overcoatings, cloakings, kerseys, etc., for men's or women's wear, square yards.....	1,713,008	91,257		1,865,790		64,653		196,308	
Value.....	\$1,705,645	\$101,751		\$1,883,555		\$38,369		\$131,470	
Worsted overcoatings and cloakings, for men's or women's wear, square yards.....	16,690							16,690	
Value.....	\$7,778							\$7,778	

<sup>1</sup> Includes states having less than 3 establishments in order that the operations of individual establishments may not be disclosed. These establishments are distributed as follows: Kentucky, 1; New Hampshire, 2; Ohio, 1; Vermont, 1; West Virginia, 1; Wisconsin, 2.

TABLE 32.—WORSTED GOODS: BY STATES, 1900—Continued.

	United States.	Connecticut.	Maine.	Massachusetts.	New Jersey.	New York.	Pennsylvania.	Rhode Island.	All other states. <sup>1</sup>
Products—Continued.									
Total value—Continued.									
All-wool woven goods, whether woolen or worsted—Continued.									
Wool dress goods, sackings, tricots, ladies cloth, broadcloth, and other all-wool goods, for women's wear, and opera and similar flannels, square yards.....	3,320,974			1,068,475	1,609,256		504,258		138,885
Value.....	\$1,598,459			\$580,940	\$773,991		\$168,528		\$75,000
Worsted dress goods, cassimeres, serges, and other worsted goods, for women's wear, and buntings, square yards.....	54,480,569		958,653	13,026,286	4,368,475	523,529	3,922,075	9,885,726	21,847,825
Value.....	\$14,991,513		\$539,411	\$4,038,468	\$1,310,543	\$242,670	\$1,970,130	\$4,050,351	\$2,842,940
Blankets, square yards.....	187,530			187,530					
Value.....	\$42,194			\$42,194					
Woven shawls, square yards.....	87,902							87,902	
Value.....	\$72,248							\$72,248	
Union or cotton mixed woven goods:									
Unions, tweeds, chevylots, cassimeres, or other goods for men's wear, square yards.....	1,179,014					83,125	1,016,920	78,969	
Value.....	\$880,441					\$60,375	\$766,743	\$53,323	
Overcoatings and cloakings, square yards.....	411,902						250,540	161,362	
Value.....	\$353,864						\$156,589	\$197,275	
Sackings, tricots, and dress goods for women's wear, and opera and similar flannels, square yards.....	1,071,204			169,234			901,970		
Value.....	\$328,243			\$55,061			\$273,182		
Goods woven on cotton warps, with weft partly or wholly of wool, worsted, or hair (or cotton weft with warp of wool):									
Wool-filling cassimeres, doeskins, jeans, tweeds, coatings, suitings, and other cotton-warp goods, for men's wear, not specified below, square yards.....	2,073,990	471,825		450,000		716,334	109,166	326,665	
Value.....	\$1,356,735	\$429,255		\$390,000		\$342,378	\$109,166	\$145,936	
Worsted-filling cassimeres, doeskins, jeans, tweeds, coatings, suitings, and other cotton-warp goods, for men's wear, not specified below, square yards.....	10,540,927	200,470		2,084,766	628,268		621,181	6,738,436	207,856
Value.....	\$6,401,491	\$144,726		\$1,083,222	\$157,960		\$323,010	\$4,585,717	\$108,856
Worsted-filling dress goods, delaines, cassimeres, serges, mohairs, alpaca, and other stuffs, for women's wear, square yards.....	39,611,517			21,794,250	633,429	4,823,470	3,577,092	8,783,276	
Value.....	\$8,466,106			\$4,128,159	\$106,037	\$1,651,246	\$984,279	\$1,596,385	
Wool-filling dress goods and repellents, square yards.....	347,882			347,882					
Value.....	\$155,042			\$155,042					
Linings, Italian cloths, and lastings, square yards.....	6,987,330		483,651	6,309,534		69,584	124,561		
Value.....	\$1,953,139		\$172,326	\$1,699,430		\$26,577	\$54,806		
Upholstery goods and sundries—									
Woolen and worsted upholstery goods, square yards.....	43,614	7,314						36,300	
Value.....	\$62,130	\$5,130						\$57,000	
Other upholstery goods.....	\$454,995			\$39,025			\$90,970	\$325,000	
Partly manufactured products for sale—									
Woolen yarn—all wool, pounds.....	3,556,375	63,671		434,192	79,255		2,979,257		
Value.....	\$1,052,508	\$24,194		\$162,982	\$39,627		\$825,705		
Worsted yarn and tops, pounds.....	41,659,360	678,726	353,500	8,828,568	4,365,683	980,510	16,424,117	8,789,306	1,233,950
Value.....	\$29,358,056	\$577,010	\$304,629	\$4,990,268	\$3,395,322	\$701,166	\$11,733,065	\$6,789,859	\$866,737
Woolen or worsted yarn, union or merino, cotton mixed, pounds.....	2,537,303			878,506			1,337,292	321,505	
Value.....	\$1,903,639			\$746,808			\$1,002,022	\$154,809	
Mohair and similar yarn, pounds.....	788,166	6,675	260,000	245,616				275,875	
Value.....	\$705,211	\$6,225	\$316,800	\$102,899				\$279,287	
Cotton yarn, pounds.....	76,013							76,013	
Value.....	\$19,760							\$19,760	
Noils, pounds.....	12,052,814	55,964	292,750	4,879,286	708,793	526,925	2,384,381	2,099,777	504,938
Value.....	\$3,335,251	\$11,937	\$64,405	\$1,281,606	\$229,424	\$165,567	\$793,279	\$651,720	\$137,313
Waste, pounds.....	7,184,821	125,040	21,000	1,185,361	692,392	261,804	653,581	3,292,631	953,012
Value.....	\$1,162,610	\$21,698	\$3,780	\$221,900	\$205,633	\$36,700	\$106,024	\$410,317	\$156,508
Flocks, pounds.....	297,628	4,926		164,329	41,000	13,000	30,000	85,443	8,930
Value.....	\$11,783	\$125		\$5,768	\$1,700	\$260	\$3,000	\$699	\$231
All other products.....	\$1,077,474	\$93,000	\$14,127	\$84,730	\$10,293	\$59,780	\$50,930	\$744,866	\$19,746
Amount received for contract work.....	\$793,338			\$609,933	\$44,521		\$69,527	\$69,357	
Comparison of products:									
Number of establishments reporting for both years.....	145	10	2	34	10	5	38	39	7
Value for census year.....	\$113,635,037	\$4,539,814	\$1,579,562	\$38,622,603	\$6,399,677	\$4,501,327	\$20,271,290	\$32,575,860	\$5,144,914
Value for preceding business year.....	\$85,483,346	\$3,466,430	\$1,104,443	\$29,535,477	\$5,340,615	\$3,705,023	\$13,890,155	\$24,278,180	\$4,154,018
Power:									
Number of establishments reporting.....	185	10	3	44	11	7	51	51	8
Total horsepower.....	97,983	3,949	1,385	38,611	5,576	7,255	14,314	22,562	3,730
Owned—									
Engines—									
Steam, number.....	399	17	11	151	15	34	63	96	12
Horsepower.....	73,180	1,548	651	27,001	5,251	3,475	13,860	18,944	2,450
Gas or gasoline, number.....	4			1		3			
Horsepower.....	220			10		210			
Waterwheels, number.....	147	16	1	64	1	14	2	45	4
Horsepower.....	20,491	2,346	75	10,262	100	3,810	60	3,108	1,230
Electric motors, number.....	26	2		15		5	2	1	1
Horsepower.....	1,161	55		740		255	46	5	50
Other power, number.....	1					1			
Horsepower.....	5					5			
Rented—									
Electric, horsepower.....	1,801		630	598	225		348		
Other kind, horsepower.....	535		30					505	
Furnished to other establishments, horsepower.....	260			190			70		

<sup>1</sup>Includes states having less than 3 establishments in order that the operations of individual establishments may not be disclosed. These establishments are distributed as follows: Kentucky, 1; New Hampshire, 2; Ohio, 1; Vermont, 1; West Virginia, 1; Wisconsin, 2.

TABLE 32.—WORSTED GOODS: BY STATES, 1900—Continued.

	United States.	Connecticut.	Maine.	Massachusetts.	New Jersey.	New York.	Pennsylvania.	Rhode Island.	All other states. <sup>1</sup>
Establishments classified by number of persons employed, not including proprietors and firm members:									
Total number of establishments	186	10	3	45	11	7	51	51	8
Under 5	1							1	
5 to 20	10			4			3	1	2
21 to 50	17			5	1		7	4	
51 to 100	42	2	2	11	4		11	11	1
101 to 250	58	2		9	3	8	14	20	2
251 to 500	28	6		6	1		8	5	2
501 to 1,000	22		1	6	1	2	8	5	
Over 1,000	12			4	1	2		4	1

<sup>1</sup> Includes states having less than 3 establishments in order that the operations of individual establishments may not be disclosed. These establishments are distributed as follows: Kentucky, 1; New Hampshire, 2; Ohio, 1; Vermont, 1; West Virginia, 1; Wisconsin, 2.

TABLE 33.—CARPETS AND RUGS, OTHER THAN RAG: BY STATES, 1900.

	United States.	Massachusetts.	New Jersey.	New York.	Pennsylvania.	All other states. <sup>1</sup>
Number of establishments	133	8	18	12	93	7
Character of organization:						
Individual	48	1	5		41	1
Firm and limited partnership	49		2		42	
Incorporated company	35	7	5	5	10	6
Miscellaneous	1		1			
Capital:						
Total						
Land	\$44,449,299	\$9,400,829	\$1,487,081	\$12,870,200	\$17,957,607	\$2,738,632
Buildings	\$2,041,774	\$614,572	\$120,015	\$876,806	\$936,875	\$94,006
Machinery, tools, and implements	\$5,717,961	\$1,503,894	\$260,137	\$939,963	\$2,705,050	\$308,917
Cash and sundries	\$11,495,056	\$2,010,880	\$282,860	\$3,086,323	\$5,294,986	\$320,037
Proprietors and firm members	\$24,594,508	\$5,271,533	\$824,019	\$7,967,608	\$9,020,696	\$1,510,652
Salaried officials, clerks, etc.	111	1	3	3	103	1
Total number	687	71	47	189	336	44
Total salaries	\$881,898	\$127,264	\$73,197	\$250,169	\$375,483	\$55,285
Officers of corporations—						
Number	52	7	9	10	17	9
Salaries	\$173,931	\$38,200	\$39,500	\$40,500	\$34,868	\$20,868
General superintendents, managers, clerks, etc.—						
Total number	635	64	38	179	319	35
Total salaries	\$707,467	\$89,064	\$33,697	\$209,669	\$340,615	\$34,422
Men—						
Number	607	62	35	172	303	35
Salaries	\$693,582	\$88,128	\$32,215	\$205,782	\$332,985	\$34,422
Women—						
Number	28	2	8	7	16	
Salaries	\$13,935	\$936	\$1,482	\$3,887	\$7,680	
Wage-earners, including pieceworkers, and total wages:						
Greatest number employed at any one time during the year	30,175	4,890	1,290	9,040	13,480	1,475
Least number employed at any one time during the year	25,734	3,742	1,124	7,681	12,166	1,021
Average number	28,411	4,480	1,171	8,603	12,919	1,233
Wages	\$11,121,383	\$1,720,289	\$379,423	\$3,308,438	\$5,330,643	\$382,500
Men, 16 years and over—						
Wages	13,860	2,022	759	3,911	6,608	560
Women, 16 years and over—						
Wages	\$6,651,180	\$995,216	\$283,005	\$1,887,556	\$3,269,567	\$214,836
Children, under 16 years—						
Wages	12,468	1,954	326	4,112	5,461	615
Average number	\$4,113,142	\$629,638	\$84,881	\$1,313,904	\$1,926,024	\$153,695
Wages	2,083	504	86	580	850	63
Average number of wage-earners, including pieceworkers, employed during each month:	\$357,061	\$94,435	\$11,637	\$106,978	\$135,052	\$9,059
Men, 16 years and over—						
January	13,828	2,075	752	3,873	6,620	508
February	13,915	2,060	746	3,908	6,659	547
March	13,865	1,970	759	3,899	6,693	539
April	13,428	1,635	732	3,896	6,613	552
May	13,783	2,043	727	3,904	6,558	551
June	13,837	2,083	724	3,944	6,540	546
July	13,923	2,114	763	3,946	6,551	549
August	13,916	2,099	783	3,949	6,530	555
September	14,018	2,125	774	3,969	6,577	572
October	14,048	2,109	782	3,967	6,602	583
November	14,100	2,123	785	3,996	6,596	600
December	13,659	1,825	777	3,691	6,755	611
Women, 16 years and over—						
January	12,285	2,053	324	3,889	5,431	533
February	12,521	2,077	325	4,002	5,516	601
March	12,498	2,003	321	4,050	5,533	591
April	12,082	1,563	314	4,090	5,477	633
May	12,331	1,859	319	4,142	5,378	635
June	12,368	1,983	323	4,081	5,410	563
July	12,497	1,987	329	4,201	5,412	563
August	12,561	2,043	334	4,200	5,389	595
September	12,604	2,088	327	4,172	5,431	586
October	12,641	2,059	329	4,171	5,421	661
November	12,792	2,115	337	4,181	5,474	685
December	12,436	1,615	332	4,162	5,608	719
Children, under 16 years—						
January	1,991	519	80	475	852	65
February	2,093	520	83	543	880	67
March	2,091	505	79	566	874	67
April	2,043	462	81	577	863	65
May	2,088	503	85	569	868	63
June	2,083	503	87	584	847	62
July	2,115	503	89	609	843	63
August	2,113	505	88	615	841	64
September	2,121	510	87	615	850	59
October	2,063	512	87	603	797	56
November	2,079	515	91	607	807	49
December	2,111	492	93	599	803	53

<sup>1</sup> Includes states having less than 3 establishments in order that the operations of individual establishments may not be disclosed. These establishments are distributed as follows: Alabama, 1; Colorado, 1; Connecticut, 2; Indiana, 1; South Carolina, 1; Wisconsin, 1.

TABLE 33.—CARPETS AND RUGS, OTHER THAN RAG: BY STATES, 1900—Continued.

	United States.	Massachu- setts.	New Jersey.	New York.	Pennsyl- vania.	All other states. <sup>1</sup>
<b>Skilled operatives, average number:</b>						
Spinners—						
Men, 16 years and over.....	486	84	1	117	316	18
Women, 16 years and over.....	1,150	302	.....	216	541	91
Children, under 16 years.....	185	.....	.....	21	162	2
Weavers—						
Men, 16 years and over.....	5,836	430	393	625	4,167	221
Women, 16 years and over.....	4,443	701	137	1,307	2,024	274
Children, under 16 years.....	34	.....	7	.....	26	1
Finishers—						
Men, 16 years and over.....	516	92	6	136	247	35
Women, 16 years and over.....	1,018	161	35	875	405	42
Children, under 16 years.....	80	.....	.....	6	64	10
<b>Machinery:</b>						
Sets of woolen cards.....	468	66	10	275	92	25
Combing machines, number.....	134	47	3	50	17	17
Of American manufacture.....	46	29	1	11	5	.....
Of foreign manufacture.....	88	18	2	39	12	17
Spindles, number.....	209,206	50,344	3,344	89,982	42,926	22,610
Spinning—						
Woolen.....	63,836	10,164	752	26,724	21,416	4,780
Worsted.....	97,191	27,352	1,728	41,620	13,267	13,224
Cotton.....	6,096	1,872	.....	4,224	.....	.....
Doubling—						
Woolen.....	3,197	680	.....	1,944	573	.....
Worsted.....	36,658	9,688	864	13,874	7,626	4,606
Cotton.....	2,228	588	.....	1,596	44	.....
Looms on woolen or worsted goods, number.....	1,757	.....	26	998	733	.....
Broad, 50 inches or over, reed space—						
On woolen goods.....	797	.....	26	50	721	.....
On worsted goods.....	17	.....	.....	17	.....	.....
Narrow, under 50 inches, reed space—						
On woolen goods.....	602	.....	.....	602	.....	.....
On worsted goods.....	295	.....	.....	295	.....	.....
Hand—						
On woolen or worsted goods.....	46	.....	.....	34	12	.....
Looms on carpets and rugs, number.....	10,754	1,223	911	2,288	5,843	539
Ingrain—						
Hand.....	92	.....	.....	28	62	2
Power.....	4,354	253	31	287	3,467	316
Broad ingrain—						
Hand.....	1	.....	.....	.....	1	.....
Power.....	246	.....	.....	11	207	28
Venetian—						
Power.....	80	.....	.....	.....	80	.....
Tapestry brussels—						
Power.....	1,094	191	7	625	271	.....
Tapestry velvet—						
Power.....	737	26	13	432	266	.....
Body brussels—						
Power.....	544	333	.....	24	87	100
Wilton—						
Power.....	507	276	46	10	168	7
Axminster—						
Power.....	611	143	19	358	12	79
Moquette—						
Power.....	150	.....	.....	150	.....	.....
Wilton rug—						
Power.....	22	1	.....	18	.....	3
Tapestry rug—						
Power.....	3	.....	1	.....	2	.....
Smyrna rug—						
Hand.....	955	.....	447	123	385	.....
Power.....	1,358	.....	347	172	835	4
<b>Miscellaneous expenses:</b>						
Total.....	\$2,751,879	\$427,241	\$45,610	\$541,841	\$1,671,015	\$86,172
Rent of works.....	\$162,657	\$683	\$970	\$53,200	\$107,624	\$180
Taxes, not including internal revenue.....	\$178,469	\$77,957	\$4,766	\$47,608	\$35,151	\$12,987
Rent of offices, insurance, interest, and all sundry expenses not hitherto included.....	\$2,096,532	\$329,705	\$39,874	\$425,654	\$1,248,594	\$52,705
Contract work.....	\$314,221	\$18,896	.....	\$15,379	\$279,646	\$300
<b>Materials used:</b>						
Total cost.....	\$27,228,719	\$3,989,945	\$867,959	\$7,681,097	\$13,773,788	\$915,930
Wool—						
Foreign, in condition purchased, pounds.....	51,761,523	13,746,907	663,452	23,297,198	11,453,910	2,595,056
Cost.....	\$8,077,420	\$2,063,905	\$99,497	\$3,875,638	\$1,686,477	\$851,813
Domestic, in condition purchased, pounds.....	109,811	.....	.....	.....	109,811	.....
Cost.....	\$26,687	.....	.....	.....	\$26,687	.....
Foreign and domestic, etc., scoured, pounds.....	37,560,231	10,096,801	420,000	17,224,476	8,189,811	1,629,143
Animal hair and fur—						
Camel, alpaca, and vicuna hair, pounds.....	457,476	.....	.....	.....	457,476	.....
Cost.....	\$71,256	.....	.....	.....	\$71,256	.....
Mohair, pounds.....	25,000	.....	.....	.....	25,000	.....
Cost.....	\$7,250	.....	.....	.....	\$7,250	.....
Buffalo, cow, and other animal hair and fur, pounds.....	5,707,281	.....	91,185	1,325,814	3,825,421	464,861
Cost.....	\$471,104	.....	\$11,912	\$99,978	\$311,325	\$47,889
Cotton, bales.....	3,813	1,242	.....	2,571	.....	.....
Cost.....	1,943,942	641,460	.....	1,302,482	.....	.....
Materials not made in mill—						
Shoddy, pounds.....	744,233	.....	.....	6,653	737,580	.....
Cost.....	\$43,555	.....	.....	\$410	\$43,145	.....
Wool waste and noils, pounds.....	2,238,946	403,698	.....	1,039,591	795,057	600
Cost.....	\$301,944	\$65,000	.....	\$151,173	\$85,741	\$30
Camel, alpaca, and vicuna noils, pounds.....	84,908	.....	.....	84,908	.....	.....
Cost.....	\$3,627	.....	.....	\$3,627	.....	.....
Mohair noils, pounds.....	1,200	.....	.....	.....	1,200	.....
Cost.....	\$162	.....	.....	.....	\$162	.....
Tops, pounds.....	200,000	.....	.....	.....	200,000	.....
Cost.....	\$96,000	.....	.....	.....	\$96,000	.....
Yarns not made in mill—						
Woolen, pounds.....	32,996,316	.....	2,066,980	1,594,801	28,029,987	1,334,548
Cost.....	\$5,030,654	.....	\$343,618	\$266,998	\$4,218,605	\$201,433
Worsted, pounds.....	9,218,267	2,142,847	87,047	281,830	6,504,583	261,960
Cost.....	\$3,544,880	\$335,863	\$15,501	\$113,588	\$2,481,729	\$98,229
Merino, pounds.....	237,970	.....	.....	.....	229,700	8,270
Cost.....	\$38,994	.....	.....	.....	\$37,837	\$1,167

<sup>1</sup>Includes states having less than 3 establishments in order that the operations of individual establishments may not be disclosed. These establishments are distributed as follows: Alabama, 1; Colorado, 1; Connecticut, 2; Indiana, 1; South Carolina, 1; Wisconsin, 1.

TABLE 33.—CARPETS AND RUGS, OTHER THAN RAG: BY STATES, 1900—Continued.

	United States.	Massachu- setts.	New Jersey.	New York.	Pennsyl- vania.	All other states. <sup>1</sup>
Materials used—Continued.						
Total cost—Continued.						
Yarns not made in mill—Continued.						
Cotton, pounds.....	19,823,561	2,163,677	432,988	3,617,216	13,215,750	303,985
Cost.....	\$2,744,328	\$250,003	\$67,918	\$443,351	\$1,939,047	\$14,009
Silk, pounds.....	9,634				9,634	
Cost.....	\$43,455				\$43,455	
Spun silk, pounds.....	178,780				178,780	
Cost.....	\$250,233				\$250,233	
Linen, pounds.....	5,888,211	1,175,131	92,346	5,382,255	1,099,108	39,371
Cost.....	\$1,164,826	\$159,702	\$13,929	\$732,307	\$252,310	\$6,678
Jute, ramie, or other vegetable fiber, pounds.....	35,846,413	2,931,326	3,091,776	16,411,276	15,784,309	627,726
Cost.....	\$2,476,029	\$186,779	\$208,673	\$944,901	\$1,101,507	\$39,169
Shoddy, made in mill for use therein, pounds.....	125,000		125,000			
Cost.....	\$6,125		\$6,125			
All other materials which are components of the product.....	\$199,618			\$158,952	\$40,666	
Soap, pounds.....	2,696,173	197,290	208,814	929,496	1,277,598	82,975
Cost.....	\$90,271	\$4,712	\$7,221	\$26,211	\$49,705	\$2,422
Oil, for preparing wool for cards or combs, gallons.....	465,781	61,844	4,659	261,591	116,137	21,500
Cost.....	\$109,671	\$19,413	\$1,812	\$36,684	\$39,005	\$6,007
Chemicals and dyestuffs.....	\$1,151,726	\$126,315	\$87,856	\$384,835	\$550,542	\$52,178
Fuel.....	\$409,913	\$97,556	\$18,902	\$113,466	\$213,722	\$26,207
Rent of power and heat.....	\$22,881	\$600		\$240	\$22,041	
Mill supplies.....	\$138,181	\$28,750	\$3,565	\$36,995	\$53,510	\$15,361
All other materials.....	\$566,761	\$101,799	\$33,038	\$103,612	\$127,287	\$1,025
Freight.....	\$157,139	\$12,690	\$3,392	\$95,660	\$24,454	\$21,103
Cotton yarn made in mill for use therein, pounds.....	1,712,421	536,374		1,176,047		
Products:						
Total value.....	\$48,192,351	\$6,906,237	\$1,522,827	\$15,020,218	\$23,118,058	\$1,661,011
All-wool woven goods, whether woolen or worsted—						
Carriage robes, square yards.....	28,364		28,364			
Value.....	\$17,367		\$17,367			
Goods woven on cotton warps with weft partly or wholly of wool, worsted, or hair—						
Carriage robes, square yards.....	667				667	
Value.....	\$1,500				\$1,500	
Upholstery goods and sundries—						
Woolen and worsted upholstery goods square yards.....	94,341				94,341	
Value.....	\$44,340				\$44,340	
Other upholstery goods.....	\$405,244				\$405,244	
Carpets and rugs—						
Carpets—						
Ingrain, 2-ply, square yards.....	36,098,292	2,295,695	97,500	2,390,698	30,469,168	1,445,281
Value.....	\$13,222,657	\$976,588	\$15,840	\$892,012	\$10,754,090	\$584,127
Ingrain, 3-ply, square yards.....	3,222,557			91,595	2,598,477	532,485
Value.....	\$1,146,273			\$56,411	\$849,559	\$240,303
Ingrain art carpets, square yards.....	2,328,906			128,784	2,085,326	114,846
Value.....	\$1,007,627			\$81,102	\$876,474	\$50,051
Tapestry Brussels, running yards of 27 inches wide.....	11,649,932	1,812,447	72,000	6,898,863	2,866,622	
Value.....	\$5,520,605	\$1,069,050	\$30,240	\$3,080,397	\$1,840,978	\$121,009
Body Brussels, running yards of 27 inches wide.....	3,581,991	2,536,261		167,773	756,348	
Value.....	\$2,979,807	\$2,143,570		\$113,216	\$613,638	\$109,443
Tapestry, velvet, running yards of 27 inches wide.....	5,706,754	105,665	180,000	2,448,555	2,972,534	
Value.....	\$3,743,353	\$78,296	\$108,000	\$1,676,920	\$1,880,137	
Wilton and Wilton velvet, running yards of 27 inches wide.....	4,732,335	591,034	306,407	3,097,432	478,630	9,332
Value.....	\$4,030,842	\$1,259,781	\$268,932	\$1,978,494	\$509,637	\$13,993
Axminster, running yards of 27 inches wide.....	5,074,961	685,229	12,400	3,834,992		542,340
Value.....	\$3,637,001	\$512,355	\$14,700	\$2,607,707		\$502,239
Moquette, running yards of 27 inches wide.....	1,627,410			1,627,410		
Value.....	\$1,125,268			\$1,125,268		
Rugs—						
Tapestry, square yards.....	18,750				18,750	
Value.....	\$9,000				\$9,000	
Wilton, square yards.....	339,784	164,401		75,814	96,869	2,700
Value.....	\$545,967	\$262,118		\$136,007	\$138,842	\$9,000
Moquette and Axminster, square yards.....	327,598	289,698			37,900	
Value.....	\$342,262	\$297,495			\$44,767	
Ingrain, square yards.....	393,417				294,800	98,617
Value.....	\$168,324				\$122,886	\$45,438
Smyrna carpets and rugs, square yards.....	3,651,661		1,007,786	504,468	2,139,407	
Value.....	\$3,650,018		\$885,653	\$755,927	\$2,039,038	
Other rugs, square yards.....	5,111,173	52,000		5,056,577		2,596
Value.....	\$2,391,434	\$95,000		\$2,321,959		\$4,475
Felt goods—						
All other felts.....	\$15,393		\$15,393			
Partly manufactured products for sale—						
Woolen yarn, all wool, pounds.....	1,073,214	312,000		44,675	716,539	
Value.....	\$252,857	\$93,740		\$10,447	\$143,670	
Worsted yarn and tops, pounds.....	2,776,929	535,722		381,878	1,769,097	
Value.....	\$1,090,086	\$205,144	\$30,983	\$140,701	\$713,208	
Woolen or worsted yarn, union or merino, cotton mixed, pounds.....	10,000				10,000	
Value.....	\$4,887				\$4,887	
Noils, pounds.....	674,185		159,316	250,667	264,205	
Value.....	\$120,131		\$20,619	\$44,049	\$49,463	
Waste, pounds.....	330,351	31,000		102,815	150,000	47,036
Value.....	\$21,133	\$3,100		\$8,601	\$7,500	\$1,932
All other products.....	\$2,648,205		\$109,100		\$2,539,105	
Amount received for contract work.....	\$20,100				\$20,100	
Comparison of products:						
Number of establishments reporting for both years.....	114	7	10	10	88	4
Value for census year.....	\$46,885,929	\$6,497,371	\$1,493,136	\$14,867,002	\$22,505,237	\$1,523,138
Value for preceding business year.....	\$40,191,460	\$5,117,762	\$1,279,003	\$13,385,231	\$18,980,902	\$1,428,562
Power:						
Number of establishments reporting.....	127	8	12	12	89	6
Total horsepower.....	26,932	6,000	1,056	7,845	10,537	1,494
Owned—						
Engines—						
Steam, number.....	155	23				
Horsepower.....	23,091	4,690	751	6,103	10,088	1,459
Gas or gasoline, number.....	1					
Horsepower.....	35					
Water wheels, number.....	22	10	3	9		35
Horsepower.....	3,145	1,135	300	1,660		
Electric motors, number.....	5	2	1	2		
Horsepower.....	192	125	5	62		
Rented—						
Other than electric, horsepower.....	469				449	
Furnished to other establishments, horsepower.....	484			20	484	

<sup>1</sup> Includes states having less than 3 establishments in order that the operations of individual establishments may not be disclosed. These establishments are distributed as follows: Alabama, 1; Colorado, 1; Connecticut, 2; Indiana, 1; South Carolina, 1; Wisconsin, 1.

TABLE 33.—CARPETS AND RUGS, OTHER THAN RAG: BY STATES, 1900—Continued.

	United States.	Massachu- setts.	New Jersey.	New York.	Pennsyl- vania.	All other states. <sup>1</sup>
Establishments classified by number of persons employed, not including proprietors and firm members:						
Total number of establishments .....	188	8	13	12	93	7
Under 5 .....	2				2	
5 to 20 .....	18		3	1	12	2
21 to 50 .....	33	1	4		28	
51 to 100 .....	30	1	3	3	21	2
101 to 250 .....	20	1	1	1	15	2
251 to 500 .....	19	2	2	4	11	
501 to 1,000 .....	3	1			2	
Over 1,000 .....	8	2		3	2	1

<sup>1</sup> Includes states having less than 3 establishments in order that the operations of individual establishments may not be disclosed. These establishments are distributed as follows: Alabama, 1; Colorado, 1; Connecticut, 2; Indiana, 1; South Carolina, 1; Wisconsin, 1.

TABLE 34.—FELT GOODS: BY STATES, 1900.

	United States.	Massachu- setts.	New Jersey.	New York.	Pennsyl- vania.	All other states. <sup>1</sup>
Number of establishments .....	36	7	4	11	8	11
Character of organization:						
Individual .....	7	1	2	1	2	1
Firm and limited partnership .....	7	1		4	1	1
Incorporated company .....	22	5	2	6		9
Capital:						
Total .....	\$7,125,276	\$1,338,640	\$806,057	\$2,183,050	\$186,445	\$2,611,084
Land .....	\$509,001	\$134,400	\$65,000	\$143,500	\$6,150	\$167,551
Buildings .....	\$1,115,961	\$229,980	\$102,000	\$396,684	\$53,800	\$333,697
Machinery, tools, and implements .....	\$1,745,933	\$324,212	\$161,819	\$528,401	\$68,050	\$663,451
Cash and sundries .....	\$3,760,781	\$650,098	\$487,238	\$1,114,615	\$58,445	\$1,446,385
Proprietors and firm members .....	13	1		7	4	1
Salaried officials, clerks, etc.:						
Total number .....	186	19	8	41	6	62
Total salaries .....	\$231,065	\$41,897	\$19,650	\$73,180	\$6,336	\$90,552
Officers of corporations—						
Number .....	28	2	3	9		14
Salaries .....	\$92,110	\$17,000	\$13,900	\$23,450		\$37,700
General superintendents, managers, clerks, etc.—						
Total number .....	108	17	5	32	6	48
Total salaries .....	\$138,955	\$24,397	\$5,750	\$49,680	\$6,336	\$52,792
Men—						
Number .....	94	15	4	27	5	43
Salaries .....	\$133,278	\$23,496	\$5,400	\$47,184	\$6,036	\$51,162
Women—						
Number .....	14	2	1	5	1	5
Salaries .....	\$5,677	\$901	\$350	\$2,496	\$300	\$1,630
Wage-earners, including pieceworkers, and total wages:						
Greatest number employed at any one time during the year .....	3,085	526	227	891	80	1,361
Least number employed at any one time during the year .....	2,885	340	190	740	67	992
Average number .....	2,933	464	206	735	75	1,208
Wages .....	\$1,024,855	\$180,795	\$83,514	\$297,858	\$80,490	\$432,183
Men, 16 years and over—						
Average number .....	1,957	402	180	507	74	794
Wages .....	\$820,637	\$165,861	\$77,798	\$228,966	\$29,896	\$318,122
Women, 16 years and over—						
Average number .....	658	47	26	197	1	687
Wages .....	\$191,090	\$12,512	\$5,716	\$62,379	\$600	\$109,583
Children, under 16 years—						
Average number .....	78	15		31		27
Wages .....	\$13,108	\$2,422		\$6,508		\$4,178
Average number of wage-earners, including pieceworkers, employed during each month:						
Men, 16 years and over—						
January .....	1,999	387	173	520	76	773
February .....	1,981	379	174	526	70	782
March .....	1,976	382	178	534	68	814
April .....	1,912	398	181	528	65	740
May .....	1,921	393	180	523	66	754
June .....	1,898	385	180	467	77	773
July .....	1,801	400	187	472	77	765
August .....	2,003	443	192	502	77	789
September .....	2,050	437	179	526	77	831
October .....	2,011	403	180	507	77	844
November .....	1,975	405	175	485	77	838
December .....	1,977	402	174	488	77	836
Women, 16 years and over—						
January .....	659	47	21	203	3	385
February .....	640	45	25	187	3	390
March .....	665	45	26	198	2	399
April .....	634	46	26	195	2	365
May .....	654	48	29	190		387
June .....	663	45	29	189		397
July .....	672	45	29	190		405
August .....	646	43	28	198		372
September .....	662	46	28	200		383
October .....	669	50	26	207		386
November .....	662	49	26	206		382
December .....	670	48	26	207		389
Children, under 16 years—						
January .....	69	14		29		25
February .....	68	13		31		24
March .....	69	13		31		25
April .....	74	15		32		27
May .....	70	16		31		23
June .....	76	15		32		29
July .....	73	14		32		27
August .....	70	15		31		24
September .....	74	15		31		28
October .....	73	16		31		28
November .....	82	16		33		33
December .....	78	16		32		30

<sup>1</sup> Includes states having less than 3 establishments in order that the operations of individual establishments may not be disclosed. These establishments are distributed as follows: Connecticut, 2; Illinois, 1; Indiana, 1; Michigan, 1; Ohio, 2; Rhode Island, 1; Wisconsin, 1; Maine, 2.



TABLE 34.—FELT GOODS: BY STATES, 1900—Continued.

	United States.	Massachu- setts.	New Jersey.	New York.	Pennsyl- vania.	All other states. <sup>1</sup>
Skilled operatives, average number:						
Spinners—						
Men, 16 years and over.....	68		1	14	1	52
Children, under 16 years.....				4		
Weavers—						
Men, 16 years and over.....	115		5	36	1	73
Women, 16 years and over.....	118			22	3	93
Finishers—						
Men, 16 years and over.....	149	5	24	50	1	60
Women, 16 years and over.....	95	10				85
Children, under 16 years.....	3	1		2		
Machinery:						
Sets of woolen cards.....	302	66	30	120	12	74
Spindles, number.....	24,286		3,440	6,620	208	14,009
Spinning—						
Woolen.....	23,235		3,140	6,303	208	13,584
Doubling—						
Woolen.....	1,051		300	326		425
Looms on woolen or worsted goods, number.....	284		5	93	5	181
Broad, 50 inches or over reed space—						
On woolen goods.....	271		5	89	3	174
Narrow, under 50 inches reed space—						
On woolen goods.....	12			3	2	7
On worsted goods.....	1			1		
Miscellaneous expenses:						
Total.....	\$356,164	\$67,612	\$17,523	\$114,900	\$11,678	\$144,451
Rent of works.....	\$10,140	\$8,080	\$1,070	\$2,500	\$1,200	\$5,290
Taxes, not including internal revenue.....	\$28,391	\$7,169	\$4,909	\$7,492	\$410	\$8,411
Rent of offices, insurance, interest, and all sundry expenses not hith- erto included.....	\$311,638	\$54,863	\$11,544	\$104,908	\$10,068	\$180,750
Materials used:						
Total cost.....	\$3,801,028	\$953,203	\$377,312	\$987,330	\$88,715	\$1,304,418
Wool—						
Foreign, in condition purchased, pounds.....	4,248,880	734,713	133,057	554,623	155,409	2,671,078
Cost.....	\$782,224	\$143,995	\$73,218	\$172,238	\$22,397	\$370,376
Domestic, in condition purchased, pounds.....	5,357,383	680,164	182,140	2,085,101	11,830	2,398,648
Cost.....	\$1,414,216	\$253,092	\$56,288	\$584,139	\$2,266	\$568,381
Foreign and domestic, etc., scoured, pounds.....	6,468,097	1,088,649	315,197	1,835,883	62,644	3,165,724
Animal hair, and fur—						
Camel, alpaca, and vicuna hair, pounds.....	98,000			20,000		78,000
Cost.....	\$33,300			\$6,000		\$27,300
Buffalo, cow, and other animal hair and fur, pounds.....	2,721,621	185,707		25,920	1,720,857	789,537
Cost.....	\$92,503	\$11,445		\$1,109	\$41,780	\$38,219
Cotton, bales.....	2,437	1,028	418	329		62
Pounds.....	1,228,850	814,157	208,800	174,781		28,112
Cost.....	\$77,683	\$50,628	\$14,638	\$9,344		\$3,078
Materials not made in mill—						
Shoddy, pounds.....	712,373	536,242	93,890	64,756		17,485
Cost.....	\$30,737	\$56,191	\$10,327	\$11,303		\$2,856
Wool waste and noils, pounds.....	2,653,590	929,043	404,430	554,205		765,912
Cost.....	\$552,902	\$220,900	\$156,799	\$100,399		\$74,894
Tops, pounds.....	99,458	74,979		24,479		
Cost.....	\$61,428	\$48,736		\$12,692		
Yarns not made in mill—						
Worsted, pounds.....	48,530					48,530
Cost.....	\$28,877					\$28,877
Merino, pounds.....	31,866	31,866				
Cost.....	\$6,373	\$6,373				
Cotton, pounds.....	51,707					
Cost.....	\$9,657			14,955		36,752
Silk, pounds.....	14			\$2,819		\$6,838
Cost.....	\$61					14
Linen, pounds.....	17,905					\$61
Cost.....	\$5,538			14,412		3,493
Shoddy, made in mill for use therein, pounds.....	1,248,835			\$3,603		\$1,935
Cost.....	\$50,098					1,248,835
All other materials which are components of the product.....	\$97,212	\$55,476	\$200		\$4,071	\$50,098
Soap, pounds.....	968,495	196,477	188,600	41,801	165,042	\$37,465
Cost.....	\$51,760	\$9,955	\$9,258	\$10,792	\$4,687	\$78,075
Oil, for preparing wool for cards or combs, gallons.....	77,553	9,382	4,617			\$18,073
Cost.....	\$20,232	\$2,107	\$1,060	\$7,027		40,216
Chemicals and dyestuffs.....	\$128,296	\$47,870	\$29,083	\$29,557	\$1,251	\$10,038
Fuel.....	\$110,355	\$21,986	\$12,488	\$30,304	\$4,499	\$20,535
Rent of power and heat.....	\$1,976		\$601			\$40,678
Mill supplies.....	\$39,446	\$9,447	\$1,270	\$11,687	\$2,250	\$14,592
All other materials.....	\$91,629	\$3,855	\$5,920	\$25,039	\$5,418	\$46,397
Freight.....	\$64,435	\$6,947	\$6,167	\$17,343	\$146	\$33,832
Products:						
Total value.....	\$6,461,691	\$1,626,330	\$691,203	\$1,734,136	\$160,633	\$2,348,889
All-wool woven goods, whether woolen or worsted—						
Wool cloths, etc., square yards.....	252,840					252,840
Value.....	\$214,914					\$214,914
Woolen overcoating, etc., square yards.....	3,728					3,728
Value.....	\$3,727					\$3,727
Wool dress goods, etc., and opera and similar flannels, square yards.....	3,480					3,480
Value.....	\$2,057					\$2,057
Flannels for underwear, square yards.....	20,836					20,836
Value.....	\$7,527					\$7,527
Blankets, square yards.....	11,104		1,500			9,604
Value.....	\$8,339		\$700			\$7,639
Horse blankets, square yards.....	3,500			3,500		
Value.....	\$3,010			\$3,010		
Goods woven on cotton warp, etc.—						
Cotton warp blankets, square yards.....	52,428					52,428
Value.....	\$72,661					\$72,661
Felt goods—						
Felt cloths, square yards.....	2,056,002	569,500	133,224		250,200	1,089,078
Value.....	\$548,548	\$142,385	\$65,890		\$103,683	\$286,585
Endless belts, square yards.....	1,114,357					487,500
Value.....	\$1,084,835					\$466,954
Boot and shoe lining, square yards.....	1,052,538	989,717		62,821		
Value.....	\$540,110	\$500,988		\$99,172		
Hair felting, square yards.....	125,000					
Value.....	\$56,950					
Trimming and lining felts, felt skirts, etc., square yards.....	2,469,830	933,155	545,619	941,056		
Value.....	\$796,713	\$288,681	\$140,869	\$361,168		

<sup>1</sup> Includes establishments distributed as follows: Connecticut, 2; Illinois, 1; Indiana, 1; Michigan, 1; Ohio, 2; Rhode Island, 1; Wisconsin, 1; Maine, 2.

## MANUFACTURES.

TABLE 34.—FELT GOODS: BY STATES, 1900—Continued.

	United States.	Massachu- setts.	New Jersey.	New York.	Pennsyl- vania.	All other states. <sup>1</sup>
Products—Continued.						
Total value—Continued.						
Felt goods—Continued.						
All other felts	\$2,261,918	\$392,882	\$471,744	\$639,136		\$768,156
Partly manufactured products for sale—						
Woolen yarn, all wool, pounds	39,000					39,000
Value	\$18,400					\$18,400
Waste, pounds	18,260		70,000			8,260
Value	\$7,968		\$6,000			\$1,968
Flocks, pounds	2,169					2,169
Value	\$197					\$197
Value of all other products <sup>2</sup>	\$834,417	\$201,944		\$73,709		\$558,704
Comparison of products:						
Number of establishments reporting for both years	25	4	3	7	2	9
Value for census year	\$3,867,905	\$602,476	\$55,874	\$1,271,640	\$153,683	\$1,784,232
Value for preceding business year	\$3,416,820	\$512,708	\$39,805	\$1,179,764	\$145,082	\$1,538,901
Power:						
Number of establishments reporting	36	7	4	11	3	11
Total horsepower	7,978	1,755	622	2,834	400	2,392
Owned—						
Engines—						
Steam, number	52	9	5	22	5	11
Horsepower	5,129	810	557	1,857	350	1,556
Water wheels, number	29	10	2	6	8	8
Horsepower	2,657	920	65	862	50	760
Electric motors, number	6	1		1		4
Horsepower	132	25		60		47
Rented—						
Electric, horsepower	55			55		
Furnished to other establishments, horsepower	14					14
Establishments classified by number of persons employed, not including proprietors and firm members:						
Total number of establishments	36	7	4	11	3	11
Under 5	1				1	
5 to 20	6		2	3		
21 to 50	4	1	1	1	1	1
51 to 100	13		1	3	1	5
101 to 250	10		1	4		3
251 to 500	2					2

<sup>1</sup> Includes states having less than 3 establishments in order that the operations of individual establishments may not be disclosed. These establishments are distributed as follows: Connecticut, 2; Illinois, 1; Indiana, 1; Michigan, 1; Ohio, 2; Rhode Island, 1; Wisconsin, 1; Maine, 2.

<sup>2</sup> This item includes felt boots and shoes, \$298,944; felt rugs, \$3,000; felt mangle cloths, etc., \$40,722; felt cord cloths and machine blankets, \$114,980; wool boots, \$370,000; wool yarn spun for lining department, \$6,731.

TABLE 35.—WOOL HATS, BY STATES, 1900.

	United States.	Massachusetts.	New York.	Pennsylvania.
Total number of establishments	24	4	5	16
Character of organization:				
Individual	4	1	1	2
Firm and limited partnership	15		2	13
Incorporated company	5	3	2	
Capital:				
Total	\$2,050,802	\$402,082	\$896,852	\$751,808
Land	\$103,000	\$17,000	\$46,500	\$44,500
Buildings	\$200,582	\$40,000	\$100,082	\$60,500
Machinery, tools, and implements	\$244,620	\$38,500	\$130,096	\$76,025
Cash and sundries	\$1,497,600	\$300,582	\$620,175	\$570,843
Proprietors and firm members	37		3	34
Salaried officials, clerks, etc.:				
Total number	57	17	23	17
Total salaries	\$66,766	\$15,459	\$42,462	\$8,846
Officers of corporations—				
Number	7	5	2	
Salaries	\$15,505	\$5,505	\$10,000	
General superintendents, managers, clerks, etc.—				
Total number	50	12	21	17
Total salaries	\$51,261	\$9,954	\$32,462	\$8,845
Men—				
Number	44	9	21	14
Salaries	\$49,741	\$9,334	\$32,462	\$7,945
Women—				
Number	6			3
Salaries	\$1,520	\$620		\$900
Wage-earners, including pieceworkers, and total wages:				
Greatest number employed at any one time during the year	2,912	662	1,354	896
Least number employed at any one time during the year	1,509	529	474	506
Average number	2,108	541	930	637
Wages	\$937,855	\$278,129	\$403,213	\$256,513
Men, 16 years and over—				
Average number	1,358	382	609	367
Wages	\$727,253	\$228,586	\$319,729	\$178,938
Women, 16 years and over—				
Average number	651	144	310	197
Wages	\$195,995	\$47,005	\$81,558	\$67,452
Children, under 16 years—				
Average number	99	15	11	73
Wages	\$14,607	\$2,538	\$1,926	\$10,143
Average number of wage-earners, including pieceworkers, employed during each month:				
Men, 16 years and over—				
January	1,900	398	367	344
February	1,200	396	451	353
March	1,258	395	506	352
April	1,333	425	551	357
May	1,309	362	589	358
June	1,388	374	677	337
July	1,445	289	793	363
August	1,508	282	824	402
September	1,635	386	833	416
October	1,646	414	730	402
November	1,805	430	614	361
December	1,265	436	467	362

<sup>1</sup> Two establishments in New Jersey included in Pennsylvania to avoid disclosing the operations of these establishments.

TABLE 35.—WOOL HATS, BY STATES: 1900—Continued.

	United States.	Massachusetts.	New York.	Pennsylvania. <sup>1</sup>
Average number of wage-earners, including pieceworkers, employed during each month—Con.				
Women, 16 years and over—				
January	476	147	165	164
February	498	145	185	168
March	528	147	243	168
April	563	149	243	171
May	574	186	260	178
June	627	141	327	159
July	786	124	439	223
August	801	124	480	257
September	895	158	481	256
October	868	160	454	254
November	567	150	226	191
December	509	147	245	177
Children, under 16 years—				
January	84	17	8	64
February	82	17	8	62
March	89	17	9	68
April	94	17	10	67
May	99	18	10	76
June	96	18	14	69
July	107	13	14	80
August	127	13	23	91
September	124	13	23	88
October	117	14	18	85
November	87	16	8	66
December	82	17	8	62
Skilled operatives, average number:				
Finishers—				
Men, 16 years and over	217		116	101
Women, 16 years and over	100		100	
Machinery:				
Sets of woolen cards				
Formers for fur hats	140	30	60	50
Miscellaneous expenses:				
Total	4	2		2
Rent of works	\$185,614	\$97,319	\$68,296	\$20,029
Taxes, not including internal revenue	\$14,890	\$1,200	\$8,462	\$5,228
Rent of offices, insurance, interest, and all sundry expenses not hitherto included	\$8,074	\$2,784	\$2,074	\$2,316
Materials used:	\$162,680	\$93,335	\$56,800	\$12,485
Total cost				
Wool—	\$2,042,202	\$587,902	\$789,348	\$664,952
Foreign, in condition, purchased, pounds				
Cost	639,211	50,000	390,149	199,062
Domestic, in condition, purchased, pounds				
Cost	\$218,651	\$25,000	\$92,493	\$101,188
Foreign and domestic, etc., scoured, pounds	2,074,163	920,738	663,344	485,081
Animal hair and fur—	\$570,322	\$242,612	\$124,655	\$203,055
Buffalo, cow, and other hair and fur, pounds	1,898,605	771,084	443,378	684,143
Cost	121,482	61,482		60,000
Materials not made in mill—	\$87,196	\$42,196		\$45,000
Shoddy, pounds				
Cost	3,135		1,635	1,500
Wool waste and noils, pounds	\$616		\$301	\$315
Cost	\$62,982	\$4,467	\$15,156	\$263,359
Wool hat bodies and hats in the rough, dozen	\$370,792	\$47,867	\$222,682	\$100,243
Cost	4,939	2,076	2,618	2,263
Fur hat bodies and hats in the rough, dozen	\$13,920		\$9,618	\$4,302
Cost	8,500		8,500	
All other materials which are components of the products	\$21,982		\$21,982	
Soap, pounds	\$474,100	\$133,966	\$201,316	\$138,818
Cost	227,838	15,000	102,765	110,078
Oil for preparing wool for cards or combs, gallons	\$9,930	\$550	\$4,341	\$5,039
Cost	1,730	70	1,035	605
Chemicals and dyestuffs	\$567	\$140	\$255	\$172
Fuel	\$108,502	\$49,290	\$32,784	\$20,428
Mill supplies	\$49,670	\$15,819	\$10,022	\$14,829
All other materials	\$9,741	\$2,000	\$4,175	\$3,566
Freight	\$68,198	\$18,233	\$40,565	\$4,895
Products:	\$43,020	\$10,229	\$15,189	\$17,602
Total value				
Hats—				
Wool, dozen	\$3,591,940	\$1,103,003	\$1,376,721	\$1,112,216
Value	811,425	247,163	284,494	279,768
Fur, dozen	\$3,161,861	\$939,298	\$1,218,498	\$1,003,505
Value	43,994	20,494	3,500	15,000
Partly manufactured products for sale—	\$285,705	\$153,705	\$47,000	\$85,000
Wool hat bodies and hats in the rough, dozen				
Value	56,006	3,500	52,506	
All other products	\$120,262	\$10,000	\$110,262	
Amount received for contract work	\$441		\$441	
Comparison of products:	\$24,171		\$320	\$23,651
Number of establishments reporting for both years	18	3	5	10
Value for census year	\$3,284,880	\$1,026,841	\$1,376,721	\$830,818
Value for preceding business year	\$2,791,933	\$884,792	\$1,101,932	\$605,209
Power:				
Number of establishments reporting	21	4	4	13
Total horsepower	2,320	475	1,055	799
Owned—				
Engines—				
Steam, number				
Horsepower	26	4	7	15
Water wheels, number	1,919	475	780	664
Horsepower	9		3	6
Electric motors, number	405		275	180
Horsepower	1			1
Establishments classified by number of persons employed, not including proprietors or firm members:	5			5
Total number of establishments	24	4	5	15
No employees	1			1
Under 5	3			2
5 to 20	1		1	1
21 to 50	6			6
51 to 100	3	1		2
101 to 250	5		1	2
251 to 500	5	1	3	1

<sup>1</sup> Two establishments in New Jersey included in Pennsylvania to avoid disclosing the operations of these establishments.

TABLE 36.—CARDING MILLS

		United States.	Alabama.	Arkansas.	Georgia.	Kentucky.	Maine.
1	Number of establishments	231	9	11	9	23	20
2	Character of organization:						
3	Individual	178	3	6	8	15	17
4	Firm and limited partnership	51	5	5	1	8	2
5	Incorporated company	2	1				1
6	Capital:						
7	Total	\$458,286	\$8,175	\$15,025	\$7,111	\$17,067	\$56,483
8	Land	\$59,433	\$875	\$1,555	\$1,065	\$1,805	\$2,555
9	Buildings	\$98,805	\$750	\$3,800	\$895	\$4,015	\$11,160
10	Machinery, tools, and implements	\$222,148	\$5,700	\$8,800	\$5,050	\$10,800	\$24,100
11	Cash and sundries	\$77,900	\$850	\$870	\$101	\$447	\$18,668
12	Proprietors and firm members	171	14	14	1	12	11
13	Salaried officials, clerks, etc.:						
14	Total number	5		1		1	1
15	Total salaries	\$2,390		\$90		\$300	\$1,000
16	General superintendents, managers, clerks, etc.—						
17	Total number	5		1		1	1
18	Total salaries	\$2,390		\$90		\$300	\$1,000
19	Men—						
20	Number	5		1		1	1
21	Salaries	\$2,390		\$90		\$300	\$1,000
22	Wage-earners, including pieceworkers, and total wages:						
23	Greatest number employed at any one time during the year	300	10	12	12	39	40
24	Least number employed at any one time during the year	249	7	12	11	30	27
25	Average number	140	5	6	6	14	13
26	Wages	\$33,106	\$843	\$930	\$835	\$2,106	\$4,478
27	Men, 16 years and over—						
28	Average number	102	4	4	6	12	8
29	Wages	\$26,168	\$823	\$710	\$835	\$1,840	\$3,363
30	Women, 16 years and over—						
31	Average number	23		1		1	4
32	Wages	\$5,289		\$80		\$150	\$915
33	Children, under 16 years—						
34	Average number	15	1	1		1	1
35	Wages	\$1,649	\$20	\$140		\$116	\$200
36	Average number of wage-earners, including pieceworkers, employed during each month:						
37	Men 16 years and over—						
38	January	51	1	2	4	6	1
39	February	49			4	6	1
40	March	53		2	5	5	5
41	April	74	2	2	5	5	7
42	May	127	1	2	5	14	11
43	June	136	1	3	5	15	16
44	July	148	3	6	5	21	11
45	August	187	6	6	7	25	15
46	September	155	7	8	9	21	11
47	October	130	7	10	10	10	13
48	November	89	6	7	6	7	6
49	December	64	6	3	6	5	4
50	Women, 16 years and over—						
51	January	12					
52	February	13					
53	March	15		1			
54	April	28		1			5
55	May	31		1		2	5
56	June	32		1		8	6
57	July	25		1		1	5
58	August	28		1		2	6
59	September	28		1		2	5
60	October	27		1		2	4
61	November	21		1		2	4
62	December	21		3			5
63	Children under 16 years—						
64	January	5					1
65	February	5					1
66	March	6		1			1
67	April	11		1		1	
68	May	18		1		1	
69	June	25		1		3	2
70	July	25	1	1		4	
71	August	25	1	1		3	2
72	September	24	1	1		8	2
73	October	17	1	1			2
74	November	10	1	1			2
75	December	10	1	1			2
76	Skilled operatives, average number:						
77	Spinners—						
78	Men	5					
79	Women	2					
80	Weavers—						
81	Men	1					
82	Women	1					
83	Finishers—						
84	Men	1					
85	Women	1					
86	Children	2					
87	Machinery:						
88	Sets of woolen cards	259	7	11	9	24	26
89	Combing machines, number	7					
90	Of American manufacture	7					
91	Of foreign manufacture						
92	Spindles, number	12,025		240			1,797
93	Spinning—						
94	Woolen	10,889		240			1,467
95	Doubling—						
96	Woolen	1,136					330
97	Looms on woolen or worsted goods, number	92					17
98	Broad, 50 inches or over, reed space—						
99	On woolen goods	31					6
100	Narrow, under 50 inches, reed space—						
101	On woolen goods	60					11
102	Hand—						
103	On woolen or worsted goods	1					

# WOOL.

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BY STATES: 1900.

Minnesota.	Missouri.	New York.	North Carolina.	Ohio.	Pennsylvania.	Tennessee.	Vermont.	Virginia.	West Virginia.	Wisconsin.	All other states. <sup>1</sup>	
5	17	16	9	3	26	33	8	4	12	15	11	1
5	13	12	8	3	19	26	7	3	11	12	10	2
	4	4	1		7	7	1	1	1	8	1	3
												4
\$13,650	\$33,455	\$22,016	\$7,943	\$11,700	\$96,556	\$65,919	\$12,990	\$10,740	\$8,387	\$53,194	\$17,925	5
\$2,900	\$3,135	\$2,659	\$865	\$2,000	\$16,667	\$8,980	\$2,825	\$750	\$987	\$6,585	\$3,275	6
\$4,700	\$7,050	\$4,172	\$1,503	\$3,100	\$21,310	\$8,665	\$6,225	\$1,875	\$2,320	\$12,415	\$4,850	7
\$5,500	\$19,575	\$9,995	\$5,550	\$5,800	\$43,204	\$26,705	\$3,550	\$6,950	\$4,625	\$27,844	\$8,400	8
\$550	\$3,695	\$5,190	\$25	\$800	\$15,375	\$21,619	\$390	\$1,165	\$405	\$6,350	\$1,400	9
4	5	18	4	2	32	15	10	1	8	11	9	10
						\$1,000						11
												12
						\$1,000						13
												14
						\$1,000						15
												16
3	89	4	9	8	20	53		8	10	27	6	17
2	24	4	9	8	18	50		7	9	26	5	18
2	13	2	2	3	11	34		2	3	21	3	19
\$600	\$2,689	\$450	\$242	\$649	\$3,208	\$6,861		\$617	\$725	\$7,318	\$555	20
2	11	1	2	2	7	24		1	2	19	8	21
\$600	\$2,339	\$950	\$242	\$418	\$2,580	\$5,251		\$462	\$675	\$6,125	\$555	22
	1	1		1	2	5				7		23
	\$265	\$100		\$231	\$380	\$1,105				\$2,078		24
	1				2	5		1	1	1		25
	\$95				\$243	\$505		\$155	\$50	\$120		26
3					5	18				10	1	27
2					6	18				10		28
3					6	16				10		29
3	6		2		8	20				12		30
2	25	1	2	2	10	32		1	1	15	3	31
2	22	1	3	4	10	32		1	6	14	1	32
2	25	1	4	4	6	31		3	8	16	2	33
1	25	1	3	4	7	29		4	7	15	2	34
1	23	1	4	4	7	29		5	5	15	5	35
2	6	1	6	4	6	29		3	3	15	5	36
3	2	1	4	4	8	21				12	2	37
3		1			6	16				12	2	38
					1	4				7		39
					2	4				7		40
					1	6				7		41
	8			1	3	7				8		42
3					2	7				9		43
1		3		2	2	7				7		44
2		1		2	1	5				7		45
2		1		3	2	5				6		46
2		1		3	1	6				7		47
1		1		3	2	6				7		48
		1		1	1	4				7		49
		1		4	2	4				7		50
						4						51
						4						52
						4						53
	1				2	6						54
1					2	6				2		55
1					4	6				2		56
2					3	7		3	2	2		57
2					3	7		3	2	2		58
2					3	7		2	2	2		59
2					2	6		2	2	2		60
2					2	4		2		2		61
1					2	4						62
					1	4		1				63
					1	1						64
					1							65
												66
					1	1						67
												68
						2						69
5	19	18	10	3	31	37	9	4	15	19	12	70
1					4	2						71
1					4	2						72
484	534	809	200	544	4,025	678		450	570	1,186	508	73
484	417	715	200	494	3,792	580		450	538	1,040	472	74
	117	94		50	233	98			32	146	86	75
	3	5		7	44		1	4		7	4	76
												77
		1		4	18			1		2	1	78
	3	4		3	27		1	3		5	3	79
					1							80

<sup>1</sup>Includes establishments distributed as follows: Connecticut, 1; Illinois, 1; Indiana, 1; Iowa, 1; Mississippi, 1; New Hampshire, 2; Oregon, 2; South Carolina, 1; Texas, 1.

TABLE 36.—CARDING MILLS

	United States.	Alabama.	Arkansas.	Georgia.	Kentucky.	Maine.
<b>Machinery—Continued.</b>						
81 Looms on carpets and rugs, number .....	3					
82 Ingrain, hand .....	1					
83 Power .....	2					
<b>Miscellaneous expenses:</b>						
84 Total .....	\$10,480	\$225	\$258	\$108	\$500	\$1,174
85 Rent of works .....	\$3,382	\$113			\$206	\$260
86 Taxes, not including internal revenue .....	\$2,540	\$65	\$193	\$63	\$161	\$394
87 Rent of offices, insurance, interest, and all sundry expenses not hitherto included .....	\$4,578	\$47	\$65	\$40	\$133	\$520
<b>Materials used:</b>						
88 Total cost .....	\$395,116	\$14,664	\$16,148	\$7,761	\$34,827	\$48,126
89 Wool—						
90 Domestic, in condition purchased, pounds .....	1,540,025	99,041	97,137	51,922	113,104	148,884
91 Cost .....	\$375,469	\$14,011	\$15,117	\$7,436	\$33,857	\$45,265
92 Domestic, etc., scoured, pounds .....	1,189,727	48,405	57,675	31,650	110,703	131,075
93 Materials not made in mill—						
94 Shoddy, pounds .....	1,554					
95 Cost .....	\$348					
96 Wool waste and noils, pounds .....	5,200					
97 Cost .....	\$544					
98 Yarns not made in mill—						
99 Woolen, pounds .....	925					
100 Cost .....	\$400					
101 Cotton, pounds .....	4,190					80
102 Cost .....	\$676					\$16
103 Linen, pounds .....	50					
104 Cost .....	\$9					
105 Jute, ramie, or other of vegetable fiber, pounds .....	100					
106 Cost .....	\$12					
107 All other materials which are components of the product .....	\$50					
108 Soap, pounds .....	22,716	125	100	50		2,044
109 Cost .....	\$873	\$5	\$5	\$12		\$94
110 Oil, for preparing wool for cards or combs, gallons .....	7,274	213	200	40	135	1,062
111 Cost .....	\$1,936	\$30	\$47	\$13	\$71	\$446
112 Chemicals and dyestuffs .....	\$1,966					\$393
113 Fuel .....	\$5,436	\$60	\$194	\$75	\$415	\$347
114 Rent of power and heat .....	\$762		\$100		\$50	\$50
115 Mill supplies .....	\$4,696	\$215	\$280	\$95	\$371	\$640
116 All other materials .....	\$1,610	\$335	\$90	\$130	\$18	\$293
117 Freight .....	\$329	\$8	\$15		\$45	\$82
<b>Products:</b>						
118 Total value .....	\$584,512	\$20,163	\$21,930	\$11,547	\$42,401	\$65,155
119 All-wool woven goods, whether woolen or worsted—						
120 Wool cloths, doeskins, cassimeres, chevots, tweeds, indigo flannels, and broadcloths, for men's wear, square yards .....	7,238					4,500
121 Value .....	\$6,225					\$8,300
122 Woolen overcoatings, cloakings, kerseys, etc., for men's or women's wear, square yards .....	100					
123 Value .....	\$60					
124 Flannels for underwear, square yards .....	11,356					
125 Value .....	\$4,072					
126 Blankets, square yards .....	13,500					3,300
127 Value .....	\$6,585					\$1,400
128 Union, or cotton mixed, woven goods—						
129 Unions, tweeds, chevots, cassimeres, or other goods, for men's wear, square yards .....	350					
130 Value .....	\$150					
131 Flannels for underwear, square yards .....	800					
132 Value .....	\$105					
133 Goods woven on cotton warps, with weft partly or wholly of wool, worsted, or hair, or cotton weft with warp of wool—						
134 Wool-filling cassimeres, doeskins, jeans, tweeds, coatings, suitings, and other cotton warp goods, for men's wear, not specified below, square yards .....	50					
135 Value .....	\$35					
136 Satinets and linseys, square yards .....	3,163					413
137 Value .....	\$1,513					\$413
138 Wool-filling dress goods and repellants, square yards .....	60					
139 Value .....	\$60					
140 Domest flannels and shirtings, square yards .....	207					57
141 Value .....	\$94					\$30
142 Cotton-warp blankets, square yards .....	650					150
143 Value .....	\$420					\$140
144 Carpets and rugs—						
145 Ingrain, 2-ply, square yards .....	900					
146 Value .....	\$515					
147 Ingrain, 3-ply, square yards .....	543					
148 Value .....	\$380					
149 Partly manufactured products for sale—						
150 Woolen yarn, all wool, pounds .....	266,789		600			15,600
151 Value .....	\$127,138		\$300			\$10,860
152 Wool card rolls, pounds .....	857,296	44,800	52,577	28,700	100,366	110,279
153 Value .....	\$373,404	\$19,745	\$21,630	\$11,347	\$42,266	\$49,012
154 All other products .....	\$2,391					
155 Amount received for contract work .....	\$11,020	\$368		\$200		
<b>Comparison of products:</b>						
156 Number of establishments reporting for both years .....	214	9	11	9	20	20
157 Value for census year .....	\$484,920	\$20,163	\$21,930	\$11,547	\$38,101	\$65,155
158 Value for preceding business year .....	\$479,850	\$19,022	\$24,206	\$11,414	\$38,280	\$65,446
<b>Power:</b>						
159 Number of establishments reporting .....	229	8	11	9	23	20
160 Total horsepower .....	3,346	150	169	140	291	368
161 Owned—						
Engines—						
Steam, number .....	73	3	5	2	13	1
Horsepower .....	1,097	24	109	55	180	47
Gas or gasoline, number .....	1					
Horsepower .....	6					
Water wheels, number .....	165	6	3	9	8	19
Horsepower .....	2,174	126	44	85	96	321
Electric motors, number .....	1					
Horsepower .....	5					
Other power, horsepower .....	2		2			

BY STATES: 1900—Continued.

Minnesota.	Missouri.	New York.	North Carolina.	Ohio.	Pennsylvania.	Tennessee.	Vermont.	Virginia.*	West Virginia.	Wisconsin.	All other states. <sup>1</sup>
					3						
					1						81
					2						82
\$483	\$510	\$729	\$51	\$282	\$1,369	\$2,219	\$122	\$165	\$236	\$1,740	\$314
	\$128	\$324			\$260	\$1,776		\$70	\$75	\$125	\$80
\$58	\$198	\$188	\$31	\$57	\$366	\$233	\$51	\$33	\$56	\$389	\$104
\$425	\$189	\$267	\$20	\$225	\$743	\$210	\$71	\$62	\$105	\$1,276	\$180
\$13,666	\$35,923	\$19,967	\$5,813	\$4,298	\$39,843	\$60,747	\$6,722	\$9,935	\$15,258	\$49,318	\$12,605
48,169	122,690	78,259	18,122	21,074	158,671	232,410	18,390	34,120	40,626	184,077	78,269
\$12,849	\$34,681	\$18,368	\$5,116	\$4,025	\$35,492	\$58,468	\$6,526	\$9,782	\$15,080	\$47,221	\$12,175
38,758	113,640	58,048	77,122	11,287	103,448	223,330	18,390	32,545	40,626	126,503	31,462
	4				550	1,000					
	\$7				\$91	\$250					
					200	5,000					
					\$44	\$500					
					925						
					\$400						
		365			3,445						
		\$71			\$499					300	
					50					\$90	
					\$9						
					100						
					\$12						
	1,275	2,684	895	\$50	11,195	525		300		1,450	1,673
	\$36	\$111	\$32	\$15	\$456	\$16		\$8		\$47	\$36
905	390	519	83	60	1,565	636	185	438	75	404	\$74
\$120	\$136	\$188	\$50	\$15	\$334	\$135	\$78	\$67	\$11	\$98	\$97
	\$102	\$70		\$60	\$622	\$150		\$4		\$80	\$5
\$595	\$523	\$568		\$55	\$570	\$634	\$25		\$85	\$905	\$85
	\$45	\$208			\$15	\$18	\$15			\$232	\$34
\$85	\$280	\$236	\$105	\$73	\$1,053	\$446	\$43		\$59	\$500	\$170
\$10	\$75	\$140	\$10		\$183	\$130	\$25	\$45	\$59	\$150	\$3
\$7	\$38	\$12			\$63		\$10	\$29	\$21	\$16	
\$13,350	\$46,927	\$27,869	\$6,824	\$5,984	\$56,266	\$85,390	\$3,470	\$12,359	\$17,946	\$69,511	\$16,920
		513			1,325						900
		\$300			\$1,785						\$840
					100						
					\$60						
		1,575		1,206	7,825						
		\$665		\$422	\$2,635					750	
					9,650					\$850	
					\$4,885					550	
										\$250	
					350						
					\$150						
					800						
					\$105						
		50									
		\$35									
					60					2,750	
					\$60					\$1,100	
		150									
		\$64									
		300			200						
		\$180			\$100						
					900						
					\$515						
					543						
					\$380						
8,725	20,170	4,800		5,440	32,784	42,000		13,000	8,000	75,170	500
\$5,803	\$12,207	\$9,520		\$3,333	\$20,118	\$20,000		\$6,500	\$4,000	\$40,197	\$300
25,800	79,941	43,865	15,475	3,625	57,757	164,633	16,700	15,230	23,933	33,633	34,970
\$12,542	\$34,720	\$22,550	\$6,808	\$1,813	\$23,781	\$65,476	\$3,470	\$5,809	\$13,946	\$18,014	\$15,475
		\$25		\$416	\$1,550	\$100				\$18,014	\$300
		\$530	\$16		\$142	\$164				\$9,600	
5	15	14	9	3	23	31	8	3	11	13	10
\$18,350	\$40,647	\$24,323	\$6,824	\$5,984	\$52,869	\$84,042	\$8,470	\$10,127	\$17,426	\$43,236	\$15,720
\$18,575	\$39,270	\$22,400	\$7,365	\$5,720	\$46,148	\$87,950	\$8,640	\$8,650	\$17,677	\$41,887	\$18,300
5	17	16	9	3	26	32	8			15	11
61	287	149	100	40	459	360	140	4	12	361	115
								40	116		
4	12	4		2	9	8			1	8	1
41	190	48		30	160	83			10	117	3
						1					
						6					
2	5	11	12	1	23	23	8	4	13	8	10
20	91	97	100	10	294	258	140	40	106	236	110
					1						
					5						

<sup>1</sup> Includes establishments distributed as follows: Connecticut, 1; Illinois, 1; Indiana, 1; Iowa, 1; Mississippi, 1; New Hampshire, 2; Oregon, 2; South Carolina, 1; Texas, 1.



TABLE 36.—CARDING MILLS,

	United States.	Alabama.	Arkansas.	Georgia.	Kentucky.	Maine.
Power—Continued.						
Total horsepower—Continued.						
Rented—						
162      Electric, horsepower .....	4					
163      Other kind, horsepower .....	58		14		15	
164      Furnished to other establishments, horsepower .....	45					
Establishments classified by number of persons employed, not including proprietors and firm members:						
165      Total number of establishments .....	281	9	11	9	23	20
166      No employees .....	98	4	5		6	7
167      Under 5 .....	126	5	6	9	15	12
168      5 to 20 .....	6				2	1
169      21 to 50 .....	1					

WOOL.

169

BY STATES: 1900—Continued.

[illegible]

<sup>1</sup>Includes establishments distributed as follows: Connecticut, 1; Illinois, 1; Indiana, 1; Iowa, 1; Mississippi, 1; New Hampshire, 2; Oregon, 2; South Carolina, 1; Texas, 1.

## MANUFACTURES.

TABLE 37.—WOOL SCOURING, BY STATES: 1900.

	United States.	California.	Massachu- setts.	New Jersey.	New Mexico.	All other states. <sup>1</sup>
Number of establishments .....	25	6	5	3	4	7
Character of organization:						
Individual .....	11	3	3	2	1	2
Firm and limited partnership .....	6	2	—	—	1	3
Incorporated company .....	8	1	2	1	2	2
Capital:						
Total .....	\$1,061,123	\$829,668	\$354,154	\$23,776	\$136,700	\$216,825
Land .....	\$82,950	\$40,000	\$18,750	—	\$4,700	\$19,500
Buildings .....	\$148,000	\$20,000	\$75,000	—	\$19,000	\$34,000
Machinery, tools, and implements .....	\$377,576	\$74,600	\$166,500	\$18,476	\$32,000	\$86,000
Cash and sundries .....	\$452,597	\$195,068	\$98,904	\$5,300	\$81,000	\$77,325
Proprietors and firm members .....	11	1	3	—	1	6
Salaries:						
Total .....	45	9	20	4	3	9
Total salaries .....	\$72,011	\$11,440	\$44,176	\$3,278	\$2,960	\$10,157
Officers of corporations—						
Number .....	9	—	3	2	—	4
Salaries .....	\$15,000	—	\$8,000	\$2,000	—	\$5,000
General superintendents, managers, clerks, etc.—						
Total number .....	36	9	17	2	3	5
Total salaries .....	\$57,011	\$11,440	\$36,176	\$1,278	\$2,960	\$5,157
Men—						
Number .....	36	9	17	2	3	5
Salaries .....	\$57,011	\$11,440	\$36,176	\$1,278	\$2,960	\$5,157
Wage-earners, including pieceworkers, and total wages:						
Greatest number employed at any one time during the year .....	1,070	382	416	35	79	153
Least number employed at any one time during the year .....	473	147	175	21	58	77
Average number .....	720	230	298	24	67	101
Wages .....	\$338,608	\$107,187	\$145,946	\$12,065	\$21,890	\$51,583
Men, 16 years and over—						
Average number .....	646	189	297	17	42	101
Wages .....	\$316,924	\$93,375	\$145,556	\$8,565	\$17,890	\$51,538
Women, 16 years and over—						
Average number .....	74	41	1	7	25	—
Wages .....	\$21,682	\$13,792	\$390	\$3,500	\$4,000	—
Average number of wage-earners, including pieceworkers, employed during each month:						
Men, 16 years and over—						
January .....	680	216	326	15	38	85
February .....	632	178	318	15	38	88
March .....	535	146	272	13	32	72
April .....	449	97	230	13	33	76
May .....	456	67	198	12	40	139
June .....	548	145	231	14	42	116
July .....	739	255	295	18	47	124
August .....	741	203	346	21	47	124
September .....	752	222	335	21	47	127
October .....	734	222	340	26	49	97
November .....	734	250	332	21	46	85
December .....	752	263	347	14	43	85
Women, 16 years and over—						
January .....	73	38	1	7	27	—
February .....	66	28	1	7	27	—
March .....	57	31	2	7	20	—
April .....	52	23	2	7	20	—
May .....	29	—	2	7	20	—
June .....	51	23	1	7	20	—
July .....	92	57	1	7	27	—
August .....	93	58	1	7	27	—
September .....	98	68	1	7	27	—
October .....	91	56	1	7	27	—
November .....	88	53	1	7	27	—
December .....	98	63	1	7	27	—
Miscellaneous expenses:						
Total .....	\$102,039	\$45,276	\$30,569	\$2,831	\$5,500	\$17,863
Rent of works .....	\$19,450	\$9,020	\$1,655	\$2,200	—	\$5,675
Taxes, not including internal revenue .....	\$19,795	\$14,862	\$3,355	\$81	\$650	\$847
Rent of offices, insurance, interest, and all sundry expenses not hitherto included .....	\$62,794	\$20,494	\$25,559	\$550	\$4,850	\$11,341
Materials used:						
Total cost .....	\$193,826	\$53,354	\$78,371	\$3,695	\$22,930	\$35,476
Soap, pounds .....	567,169	200,000	265,937	15,907	—	85,325
Cost .....	\$16,763	\$3,000	\$10,268	\$482	—	\$3,013
Oil, for preparing wool for cards or combs, gallons .....	950	—	350	—	—	600
Cost .....	\$450	—	\$210	—	—	\$240
Chemicals and dyestuffs .....	\$66,393	\$24,498	\$21,127	\$54	\$13,020	\$7,604
Fuel .....	\$42,931	\$10,380	\$15,934	\$1,067	\$5,750	\$9,800
Rent of power and heat .....	\$1,446	—	\$1,146	\$300	—	—
Mill supplies .....	\$20,816	\$1,390	\$15,020	\$1,327	\$660	\$2,419
All other materials .....	\$8,982	\$3,086	\$1,702	\$130	\$500	\$3,504
Freight .....	\$36,045	\$11,000	\$13,174	\$125	\$3,000	\$8,746
Products:						
Pounds of wool scoured .....	70,873,519	19,050,000	30,709,844	503,420	6,200,000	14,415,255
Amount received for wool scouring .....	\$889,809	\$293,200	\$334,912	\$32,585	\$77,875	\$151,237
Comparison of products:						
Number of establishments reporting for both years .....	23	6	5	3	3	6
Value for census year .....	\$889,079	\$293,200	\$334,912	\$32,585	\$46,875	\$131,507
Value for preceding business year .....	\$764,052	\$238,000	\$234,052	\$33,000	\$46,000	\$118,000
Power:						
Number of establishments reporting .....	25	6	5	3	4	7
Total horsepower .....	2,900	485	1,330	30	185	770
Owned—						
Engines, steam—						
Number .....	25	6	6	3	4	6
Horsepower .....	2,333	485	890	53	185	720
Water wheels—						
Number .....	8	—	5	2	—	1
Horsepower .....	567	—	490	27	—	60
Furnished to other establishments, horsepower .....	116	—	—	—	—	116
Establishments classified by number of persons employed, not including proprietors and firm members:						
Total number of establishments .....	25	6	5	3	4	7
5 to 20 .....	12	—	1	3	3	6
21 to 50 .....	6	3	1	—	1	1
51 to 100 .....	6	3	2	—	—	1
101 to 250 .....	1	—	1	—	—	—

<sup>1</sup> Includes establishments distributed as follows: Colorado, 1; Connecticut, 1; Illinois, 2; Missouri, 1; Oregon, 1; Pennsylvania, 1.

TABLE 38.—WOOL PULLING, BY STATES: 1900.

	United States.	Missouri.	New York.	Pennsylvania.	All other states. <sup>1</sup>
Number of establishments.....	34	4	5	7	18
Character of organization:					
Individual.....	16	2	2	2	10
Firm and limited partnership.....	11	2	3	4	2
Incorporated company.....	6				6
Miscellaneous.....	1			1	
Capital:					
Total.....	\$944,715	\$65,420	\$114,510	\$222,690	\$542,095
Land.....	\$104,700	\$400	\$46,800	\$20,000	\$87,700
Buildings.....	\$140,700	\$500	\$31,400	\$31,700	\$77,100
Machinery, tools, and implements.....	\$91,275	\$15,120	\$5,960	\$17,550	\$51,645
Cash and sundries.....	\$608,040	\$49,400	\$29,550	\$153,440	\$375,650
Proprietors and firm members.....	31	4	7	9	11
Salaried officials, clerks, etc.:					
Total number.....	35	1	1	4	29
Total salaries.....	\$85,422	\$1,200	\$600	\$2,102	\$31,430
Officers of corporations—					
Number.....	8				8
Salaries.....	\$8,600				\$8,600
General superintendents, managers, clerks, etc.—					
Total number.....	27	1	1	4	21
Total salaries.....	\$26,822	\$1,200	\$600	\$2,192	\$22,830
Men—					
Number.....	25	1	1	3	20
Salaries.....	\$25,636	\$1,200	\$600	\$1,776	\$22,110
Women—					
Number.....	2			1	1
Salaries.....	\$1,186			\$416	\$720
Wage-earners, including pieceworkers, and total wages:					
Greatest number employed at any one time during the year.....	631	71	79	89	302
Least number employed at any one time during the year.....	351	13	51	85	202
Average number.....	475	33	59	85	293
Wages.....	\$247,950	\$19,759	\$34,866	\$44,393	\$148,932
Men, 16 years and over—					
Average number.....	475	33	59	85	293
Wages.....	\$247,950	\$19,759	\$34,866	\$44,393	\$148,932
Average number of wage-earners, including pieceworkers, employed during each month:					
Men, 16 years and over—					
January.....	438	46	50	88	249
February.....	441	46	50	89	256
March.....	524	69	61	88	306
April.....	491	31	68	86	311
May.....	452	20	65	85	282
June.....	467	8	78	84	297
July.....	432	11	82	88	306
August.....	482	13	68	84	317
September.....	455	13	53	88	305
October.....	485	43	48	88	325
November.....	502	43	46	88	310
December.....	486	46	46	84	
Miscellaneous expenses—					
Total.....	\$47,395	\$4,068	\$7,755	\$7,828	\$28,249
Rent of works.....	\$6,210	\$1,530	\$800	\$2,680	\$2,040
Taxes, not including internal revenue.....	\$6,810	\$233	\$1,920	\$810	\$3,817
Rent of offices, insurance, interest, and all sundry expenses not hitherto included.....	\$34,075	\$2,300	\$5,475	\$3,008	\$22,392
Amount paid for contract work.....	\$300		\$300		
Materials used:					
Total cost.....	\$53,975	\$2,956	\$3,552	\$9,231	\$38,236
Sheepskins handled, number.....	103,000			105,000	5,000
All other materials used which are components of the product.....	\$7,006	\$376	\$1,250	\$4,380	\$1,000
Oil, for preparing wool for cards or combs, gallons.....	5,000				5,000
Cost.....	\$1,000				\$1,000
Chemicals and dye stuffs.....	\$7,900	\$500			\$7,400
Fuel.....	\$19,832	\$1,910	\$1,565	\$2,910	\$15,447
Rent of power and heat.....	\$960				\$960
Mill supplies.....	\$2,788	\$80	\$125	\$638	\$1,745
All other materials.....	\$8,794	\$90	\$552	\$843	\$7,309
Freight.....	\$5,695		\$60	\$260	\$5,375
Products:					
Amount received for custom or contract work.....	\$581,287	\$45,800	\$56,731	\$96,314	\$332,442
Wool pulled, pounds.....	6,112,298	784,000	1,024,178	2,071,000	2,233,120
Value.....	\$529,287	\$45,800	\$56,731	\$96,314	\$332,442
Tallow rendered, pounds.....	500,000				500,000
Value.....	\$2,000				\$2,000
Comparison of products:					
Number of establishments reporting for both years.....	21	1	2	3	15
Value for census year.....	\$372,137	\$35,000	\$40,283	\$31,012	\$265,842
Value for preceding year.....	\$331,754	\$30,000	\$34,000	\$30,904	\$236,850
Power:					
Number of establishments reporting.....	17	1	1	2	13
Total horsepower.....	825	55	50	130	590
Owned—					
Engines—					
Steam, number.....	21	1	1	2	17
Horsepower.....	640	50	50	115	425
Gas or gasoline, number.....	1			1	
Horsepower.....	15			15	
Water wheels, number.....	2				2
Horsepower.....	125				125
Electric motors, number.....	1	1			
Horsepower.....	5	5			
Rented—					
Electric, horsepower.....	40				40
Establishments classified by number of persons employed, not including proprietors and firm members:					
Total number of establishments.....	34	4	5	7	18
No employees.....	1				1
Under 5.....	6	1	2		3
5 to 20.....	16	1	2	6	7
21 to 50.....	9	2	1	1	5
51 to 100.....	2				2

<sup>1</sup>Includes establishments distributed as follows: California, 2; Illinois, 1; Indiana, 1; Kentucky, 1; Maine, 1; Massachusetts, 2; Minnesota, 1; New Jersey, 1; Ohio, 2; Washington, 1; Wisconsin, 1.

TABLE 39.—SHODDY,

	United States.	California.	Connecticut.
1 Number of establishments .....	105	8	7
2 Character of organization:			
3 Individual .....	58	1	3
4 Firm and limited partnership .....	30	1	4
4 Incorporated company .....	17	1	
5 Capital:			
6 Total .....	\$5,272,929	\$10,225	\$494,074
7 Land .....	\$434,675	\$1,500	\$30,050
7 Buildings .....	\$755,336	\$2,625	\$66,650
8 Machinery, tools, and implements .....	\$1,365,925	\$2,500	\$67,651
9 Cash and sundries .....	\$2,706,993	\$3,600	\$329,723
10 Proprietors and firm members .....	102	4	13
11 Salaried officials, clerks, etc.:			
12 Total number .....	189		8
12 Total salaries .....	\$166,704		\$8,191
13 Officers of corporations—			
14 Number .....	18		
14 Salaries .....	\$44,462		
15 General superintendents, managers, clerks, etc.—			
16 Total number .....	121		8
16 Total salaries .....	\$122,242		\$8,191
17 Men—			
18 Number .....	111		8
18 Salaries .....	\$118,506		\$8,191
19 Women—			
20 Number .....	10		
20 Salaries .....	\$8,786		
21 Wage-earners, including pieceworkers, and total wages:			
22 Greatest number employed at any one time during the year .....	2,426	9	144
23 Least number employed at any one time during the year .....	1,520	8	101
23 Average number .....	1,926	8	118
24 Wages .....	\$748,948	\$8,940	\$44,163
25 Men, 16 years and over—			
26 Average number .....	1,425	8	101
26 Wages .....	\$620,444	\$8,940	\$40,461
27 Women, 16 years and over—			
28 Average number .....	480		7
28 Wages .....	\$124,004		\$1,402
29 Children, under 16 years—			
30 Average number .....	21		10
30 Wages .....	\$4,500		\$2,300
31 Average number of wage-earners, including pieceworkers, employed during each month:			
32 Men, 16 years and over—			
33 January .....	1,458	8	99
34 February .....	1,576	8	105
35 March .....	1,557	8	107
36 April .....	1,492	8	107
37 May .....	1,424	8	102
38 June .....	1,422	8	97
39 July .....	1,260	8	87
40 August .....	1,353	8	92
41 September .....	1,401	8	98
42 October .....	1,401	8	104
43 November .....	1,429	8	100
44 December .....	1,327	8	116
45 Women, 16 years and over—			
46 January .....	508		8
47 February .....	525		8
48 March .....	528		8
49 April .....	483		8
50 May .....	491		4
51 June .....	485		8
52 July .....	398		8
53 August .....	464		9
54 September .....	464		9
55 October .....	488		6
56 November .....	503		6
57 December .....	433		6
58 Children, under 16 years—			
59 January .....	18		10
60 February .....	18		10
61 March .....	19		10
62 April .....	21		10
63 May .....	22		10
64 June .....	21		10
65 July .....	21		10
66 August .....	22		10
67 September .....	22		10
68 October .....	22		10
69 November .....	24		10
70 December .....	22		10
71 Skilled operatives, average number:			
72 Spinners—			
73 Men, 16 years and over .....	11		
74 Finishers—			
75 Men, 16 years and over .....	3		
76 Machinery:			
77 Sets of woolen cards .....	356	2	7
78 Spindles, number .....	3,288		288
79 Spinning—			
80 Woolen .....	3,288		288
81 Looms, on woolen or worsted goods, number .....	20		20
82 Narrow, under 50 inches reed space—			
83 On woolen goods .....	20		20
84 Miscellaneous expenses:			
85 Total .....	\$293,149	\$586	\$83,601
86 Rent of works .....	\$40,130	\$384	\$4,345
87 Taxes, not including internal revenue .....	\$21,042	\$67	\$1,559
88 Rent of offices, insurance, interest, and all sundry expenses not hitherto included .....	\$219,561	\$185	\$18,721
89 Contract work .....	\$12,416		\$8,976

BY STATES: 1900.

Massachusetts.	New Jersey.	New York.	Ohio.	Pennsylvania.	Rhode Island.	Vermont.	All other states. <sup>1</sup>	
29	4	9	6	26	9	8	9	1
20	1	7	1	16	5	1	4	2
4	3	2	5	10	4	2	2	3
5							3	4
\$769,294	\$538,936	\$320,861	\$1,397,746	\$972,070	\$228,930	\$245,982	\$285,811	5
\$82,085	\$49,290	\$18,700	\$120,500	\$83,650	\$6,500	\$11,200	\$81,200	6
\$188,858	\$98,953	\$45,150	\$138,000	\$146,600	\$21,700	\$25,800	\$32,000	7
\$215,885	\$128,751	\$77,152	\$408,700	\$254,181	\$114,005	\$15,500	\$81,000	8
\$282,466	\$261,942	\$188,859	\$730,546	\$488,639	\$80,125	\$193,482	\$141,611	9
29		11		19	16	4	6	10
30	15	7	35	84	3	1	6	11
\$34,886	\$30,100	\$6,130	\$55,225	\$24,746	\$3,400	\$1,000	\$3,576	12
5	6		6				1	13
\$5,850	\$22,800		\$16,000				\$812	14
25	9	7	29	34	3	1	5	15
\$28,486	\$7,800	\$6,130	\$89,225	\$24,746	\$3,400	\$1,000	\$3,264	16
24	9	6	28	32	3	1	5	17
\$28,086	\$7,800	\$5,630	\$87,025	\$24,110	\$3,400	\$1,000	\$3,264	18
1		1	6	2				19
\$400		\$500	\$2,200	\$636				20
449	222	173	562	413	156	126	172	21
284	102	166	339	322	98	70	80	22
307	156	167	474	368	131	93	104	23
\$127,715	\$56,027	\$65,739	\$164,579	\$148,240	\$56,397	\$45,345	\$36,803	24
260	128	137	229	285	127	07	83	25
\$114,492	\$49,445	\$58,695	\$102,736	\$126,604	\$55,096	\$38,142	\$30,833	26
44	28	28	245	80	4	26	18	27
\$12,794	\$6,582	\$6,781	\$61,843	\$21,064	\$1,301	\$7,203	\$5,034	28
3		2		3			3	29
\$429		\$263		\$572			\$936	30
273	129	141	253	292	181	69	63	31
336	131	141	280	296	182	68	79	32
820	110	141	285	299	187	75	75	33
806	113	141	281	273	186	58	69	34
289	105	141	249	280	184	54	62	35
253	115	188	233	294	122	67	95	36
200	113	115	159	282	114	74	108	37
220	132	187	195	286	111	65	104	38
237	142	141	195	294	120	69	102	39
214	146	137	230	289	123	67	83	40
280	155	183	229	267	131	72	99	41
242	142	187	154	266	133	63	66	42
40	26	28	263	84	6	28	20	43
47	28	28	272	82	2	33	25	44
58	26	28	270	85	2	33	18	45
47	29	28	270	75	2	17	7	46
44	28	28	263	85	2	22	15	47
41	22	28	265	80	2	20	19	48
33	25	27	182	75	2	25	21	49
46	32	29	228	76	3	25	16	50
48	28	28	227	75	3	26	20	51
34	28	28	262	74	4	27	20	52
41	31	28	261	80	6	26	24	53
46	34	32	181	87	8	28	11	54
1		1		3			3	55
1		1		3			3	56
2		1		3			3	57
4		1		3			3	58
5		1		3			3	59
4		1		3			3	60
3		2		3			3	61
4		2		3			3	62
4		2		3			3	63
4		2		3			3	64
4		4		3			3	65
4		2		3			3	66
				2			9	67
				3				68
58	48	22	57	62	63	9	28	69
				480			2,520	70
				480			2,520	71
								72
								73
\$50,027	\$25,798	\$18,122	\$69,259	\$57,728	\$23,828	\$7,609	\$6,591	74
\$7,368	\$250	\$2,440	\$540	\$11,023	\$11,290		\$2,490	75
\$5,372	\$1,457	\$1,184	\$5,495	\$3,513	\$824	\$1,168	\$453	76
\$37,287	\$22,176	\$14,648	\$68,224	\$40,667	\$11,714	\$6,441	\$3,648	77
	\$915			\$2,525				78

<sup>1</sup> Includes establishments distributed as follows: Georgia, 1; Illinois, 2; Indiana, 1; Maine, 2; New Hampshire, 2; Wisconsin, 1.

TABLE 39.—SHODDY,

	United States.	California.	Connecticut.
Materials used:			
79 Total cost.....	\$4,875,192	\$9,156	\$862,438
Wool—			
80 Foreign, in condition purchased, pounds.....	17,500		
81 Cost.....	\$8,700		
82 Domestic, in condition purchased, pounds.....	404,849		
83 Cost.....	\$118,899		
84 Foreign and domestic, etc., scoured, pounds.....	242,997		
Animal hair and fur—			
85 Camel, alpaca, and vicuna hair, pounds.....	2,000		
86 Cost.....	\$160		
87 Buffalo, cow, and other animal hair and fur, pounds.....	104,000		
88 Cost.....	\$10,285		
89 Cotton, bales.....	345		
90 Pounds.....	172,652		
91 Cost.....	\$15,202		
Materials not made in mill—			
92 Wool waste and noils, pounds.....	4,216,428		790,585
93 Cost.....	\$689,412		\$50,925
94 Camel, alpaca, and vicuna noils, pounds.....	11,600		
95 Cost.....	\$3,600		
96 Mohair noils, pounds.....	8,000		
97 Cost.....	\$960		
98 Cotton waste, pounds.....	158,000		
99 Cost.....	\$4,875		
100 Pieces, clippings, mill waste, old material, rags, etc., pounds.....	79,623,812	1,200,000	5,594,084
101 Cost.....	\$3,558,706	\$5,850	\$272,416
102 Soap, pounds.....	64,350		
103 Cost.....	\$2,396		
104 Oil, for repairing wool for cards or combs.....	440,342		57,813
105 Cost.....	\$88,848		\$8,647
106 Chemicals and dyestuffs.....	\$111,095		\$8,393
107 Fuel.....	\$115,365	\$1,886	\$8,130
108 Rent of power and heat.....	\$6,336	\$1,500	
109 Mill supplies.....	\$89,817	\$360	\$3,903
110 All other materials.....	\$46,026		
111 Freight.....	\$55,515	\$60	\$10,024
Products:			
112 Total value.....	\$6,730,974	\$17,678	\$537,733
Partly manufactured products for sale—			
113 Woolen yarn, all wool, pounds.....	75,000		
114 Value.....	\$30,000		
115 Woolen or worsted yarn, union or merino, cotton mixed, pounds.....	167,775		
116 Value.....	\$37,077		
117 Wool card rolls, pounds.....	5,000		
118 Value.....	\$2,000		
119 Noils, pounds.....	333,713		333,713
120 Value.....	\$40,807		\$40,807
121 Waste, pounds.....	1,608,470		12,500
122 Value.....	\$148,043		\$427
123 Shoddy, pounds.....	39,014,661	1,150,500	2,860,503
124 Value.....	\$5,388,378	\$17,678	\$285,882
125 Wool extract, pounds.....	4,980,825		1,720,962
126 Value.....	\$620,504		\$154,235
127 Flocks, pounds.....	2,080,758		561,031
128 Value.....	\$181,894		\$41,748
129 All other products.....	\$41,610		
130 Amount received for contract work.....	\$290,661		\$16,184
Comparison of products:			
131 Number of establishments reporting for both years.....	82	3	6
132 Value for census year.....	\$5,846,380	\$17,678	\$536,997
133 Value for preceding business year.....	\$5,104,746	\$17,580	\$537,613
Power:			
134 Number of establishments reporting.....	104	2	7
135 Total horsepower.....	11,560	115	1,294
Owned—			
Engines—			
136 Steam, number.....	90	1	11
137 Horsepower.....	7,128	50	610
138 Gas or gasoline, number.....	2	1	
139 Horsepower.....	45	25	
140 Water wheels, number.....	63		10
141 Horsepower.....	4,069		684
142 Electric motors, number.....	3		
143 Horsepower.....	105		
144 Rented, horsepower.....	218	40	
145 Furnished to other establishments, horsepower.....	75		
Establishments classified by number of persons employed, not including proprietors and firm members:			
146 Total number of establishments.....	105	3	7
147 No employees.....	3		
148 Under 5.....	24	8	2
149 5 to 20.....	41		1
150 21 to 50.....	24		4
151 51 to 100.....	9		
152 101 to 250.....	8		
153 251 to 500.....	1		

<sup>1</sup>Includes establishments distributed as follows: Georgia, 1; Illinois, 2; Indiana, 1; Maine, 2; New Hampshire, 2; Wisconsin, 1.



WOOL.

175

BY STATES: 1900—Continued.

Massachusetts.	New Jersey.	New York.	Ohio.	Pennsylvania.	Rhode Island.	Vermont.	All other states. <sup>1</sup>
\$685,123	\$526,492	\$310,783	\$1,077,529	\$1,069,944	\$390,126	\$268,712	\$165,889
	17,500						
	\$8,700						
7,000	37,500		\$24,094	3,500			
\$2,800	\$12,200		\$89,427	\$1,050			\$2,755
7,000	55,000		150,047	3,500			\$12,022
							27,450
			2,000				
			\$160				
	103,000		1,000				
	\$10,250		\$35				
		150	108				
		75,000	53,986			40	47
		\$5,250	\$4,793			20,000	23,666
						\$900	\$4,259
305,500	1,261,421	100,000	66,922	1,392,000	300,000		
\$69,210	\$189,715	\$10,000	\$11,102	\$288,460	\$70,000		
	11,600						
	\$3,600						
				8,000			
				\$960			
							158,000
11,205,073	5,933,355	22,940,559	8,992,053	11,871,628	3,311,607	6,616,000	\$4,875
\$526,164	\$267,001	\$249,411	\$866,740	\$705,764	\$287,800	\$252,234	1,958,063
2,500	5,200	16,700	13,000	1,950	25,000		\$125,326
665	\$245	\$636	\$475	\$75	\$900		
75,207	27,500	17,502	102,433	123,288	16,000	14,800	6,299
\$19,946	\$6,024	\$3,128	\$12,893	\$24,272	\$6,760	\$5,920	\$1,263
\$16,260	\$4,560	\$11,800	\$89,890	\$12,950	\$10,397	\$2,595	\$4,760
\$20,013	\$11,065	\$9,933	\$21,910	\$16,808	\$9,727	\$5,678	\$4,115
		\$410		\$926	\$3,000		\$500
\$10,285	\$2,500	\$2,345	\$7,621	\$6,124	\$2,850	\$1,125	\$2,204
\$4,107	\$6,017	\$12,814	\$18,900	\$3,638	\$45	\$110	\$395
\$10,273	\$4,015	\$5,056	\$4,083	\$8,917	\$7,647	\$150	\$5,290
\$988,189	\$685,048	\$443,529	\$1,478,712	\$1,448,886	\$515,643	\$382,852	\$232,704
				75,000			
				\$30,000			
		5,000					157,775
		\$2,000					\$37,077
	142,000	100,000	279,160	1,074,810			
4,543,254	\$29,950	\$10,000	\$24,150	\$83,516			
\$622,454	2,459,233	4,567,209	5,914,245	11,655,149	1,854,820	2,633,000	1,376,748
1,922,863	\$589,566	\$416,105	\$1,327,839	\$1,282,599	\$368,964	\$328,792	\$153,899
\$274,069		10,000	900,000		17,000	420,000	
79,180	500,547	\$9,000	\$126,000		\$500	\$56,700	
\$5,382	\$80,032			32,000	908,000		
	\$35,500			\$1,920	\$52,812		
\$86,284		\$6,424	\$623	\$50,851	\$98,367	\$1,380	\$4,760
						\$1,000	\$36,978
20	3	7	5	22			
\$894,775	\$880,948	\$291,529	\$1,460,712	\$1,196,200	9	3	4
\$786,024	\$275,092	\$230,509	\$1,330,010	\$942,115	\$515,643	\$882,852	\$169,046
					\$482,582	\$292,821	\$190,400
29	4	9	6	26			
3,622	790	699	1,050	1,632	9	3	9
					741	882	785
21	5	4	6	29			
1,952	725	400	1,035	1,454	275	307	815
1							
20							
80	1	6		1	5		5
1,650	65	299		50	391	510	420
			1		1	1	
			15		25	65	
				128	50		
				40	35		
29	4	9	6	26	9	3	9
2		1					
9		2	1	6			
		3	2	12	7	2	
5	1	1	1	6	2		6
1	3	1	1	2			1
			1			1	
				</			

TABLE 40.—FUR HATS, BY STATES: 1900.

	United States.	Connecticut.	Massachusetts.	New Jersey.	New York.	Pennsylvania.	All other states. <sup>1</sup>
Number of establishments.....	171	58	11	59	15	20	8
Character of organization:							
Individual.....	69	16	2	30	6	11	4
Firm and limited partnership.....	72	31	7	19	6	7	2
Incorporated company.....	30	11	2	10	3	2	2
Capital:							
Total.....	\$16,701,398	\$3,197,551	\$1,467,700	\$2,092,311	\$3,050,381	\$5,726,259	\$327,106
Land.....	\$1,601,514	\$113,788	\$46,356	\$242,930	\$246,000	\$348,940	\$9,500
Buildings.....	\$3,023,693	\$323,388	\$319,101	\$434,751	\$476,746	\$1,368,207	\$31,800
Machinery, tools, and implements.....	\$8,043,261	\$714,116	\$363,939	\$500,950	\$334,112	\$736,849	\$39,295
Cash and sundries.....	\$9,132,840	\$2,046,259	\$738,304	\$1,703,680	\$1,693,523	\$2,772,263	\$178,511
Proprietors and firm members.....	208	85	18	66	12	22	6
Salaried officials, clerks, etc.:							
Total number.....	726	173	54	154	135	180	30
Total salaries.....	\$943,998	\$172,780	\$55,659	\$186,266	\$224,354	\$269,619	\$35,320
Officers of corporations—							
Number.....	76	26	4	26	8	6	6
Salaries.....	\$242,734	\$39,524	\$6,000	\$55,320	\$79,770	\$54,120	\$8,000
General superintendents, managers, clerks, etc.—							
Total number.....	650	147	50	128	127	174	24
Total salaries.....	\$701,264	\$133,256	\$49,659	\$130,946	\$144,584	\$215,499	\$27,320
Men—							
Number.....	585	133	45	117	116	154	20
Salaries.....	\$670,355	\$125,960	\$48,053	\$125,598	\$139,044	\$206,135	\$25,560
Women—							
Number.....	65	14	5	11	11	20	4
Salaries.....	\$30,909	\$7,296	\$1,601	\$5,348	\$5,540	\$9,364	\$1,760
Wage-earners, including piece workers, and total wages:							
Greatest number employed at any one time during the year.....	22,008	5,916	2,380	5,635	4,499	3,101	477
Least number employed at any one time during the year.....	16,398	4,171	1,877	3,925	3,886	2,662	377
Average number.....	18,580	4,850	1,823	4,745	3,138	2,890	421
Total wages.....	\$9,119,264	\$2,414,561	\$790,786	\$2,487,067	\$2,079,464	\$1,187,272	\$160,114
Men, 16 years and over—							
Average number.....	13,187	3,405	976	3,507	2,960	2,043	295
Wages.....	\$7,231,777	\$1,906,174	\$514,262	\$2,071,822	\$1,566,907	\$984,782	\$127,830
Women, 16 years and over—							
Average number.....	5,436	1,458	834	1,199	1,112	714	119
Wages.....	\$1,840,454	\$447,020	\$274,254	\$405,795	\$499,772	\$182,606	\$30,993
Children, under 16 years—							
Average number.....	257	5	13	39	61	133	6
Wages.....	\$47,033	\$1,358	\$2,270	\$9,450	\$12,785	\$19,884	\$1,256
Average number of wage-earners, including pieceworkers, employed during each month:							
Men, 16 years and over—							
January.....	12,989	3,869	1,025	3,274	3,002	1,990	329
February.....	13,229	3,521	1,060	3,385	2,979	2,009	325
March.....	13,459	3,706	1,054	3,358	2,999	2,023	319
April.....	12,781	3,314	994	3,440	2,736	2,025	272
May.....	12,451	3,098	860	3,470	2,719	2,041	263
June.....	12,470	2,879	880	3,432	2,992	2,040	247
July.....	13,313	3,592	916	3,517	2,961	2,000	297
August.....	14,018	3,906	1,047	3,735	2,988	2,035	307
September.....	14,101	3,931	1,076	3,692	3,005	2,080	317
October.....	13,360	3,262	975	3,771	2,973	2,086	293
November.....	12,825	3,126	891	3,488	2,975	2,052	291
December.....	13,243	3,160	937	3,540	3,102	2,130	259
Women, 16 years and over—							
January.....	5,608	1,497	1,047	1,124	1,137	679	124
February.....	5,819	1,563	1,102	1,170	1,155	705	124
March.....	5,875	1,607	1,100	1,186	1,147	710	125
April.....	5,532	1,427	1,027	1,205	1,031	721	124
May.....	5,226	1,334	842	1,200	1,012	714	124
June.....	5,087	1,258	706	1,155	1,146	710	112
July.....	5,265	1,517	676	1,180	1,078	704	110
August.....	5,434	1,594	730	1,249	1,092	709	110
September.....	5,548	1,616	720	1,283	1,102	709	118
October.....	5,294	1,356	701	1,263	1,114	739	121
November.....	5,129	1,343	636	1,170	1,136	723	121
December.....	5,365	1,378	723	1,202	1,193	748	124
Children, under 16 years—							
January.....	253	5	7	39	58	138	6
February.....	252	5	8	40	58	135	6
March.....	249	5	8	40	59	131	6
April.....	250	4	8	39	61	132	6
May.....	251	3	8	40	60	134	6
June.....	266	3	23	41	62	131	6
July.....	266	4	20	41	62	133	6
August.....	272	7	24	39	62	134	6
September.....	269	7	22	39	63	132	6
October.....	254	7	8	39	62	132	6
November.....	246	6	8	35	61	131	6
December.....	256	5	8	39	60	138	6
Skilled operatives, average number:							
Weavers—							
Men, 16 years and over.....	135	.....	.....	.....	.....	135	.....
Finishers—							
Men, 16 years and over.....	840	248	96	60	214	220	2
Women, 16 years and over.....	45	9	.....	.....	5	21	.....
Children, under 16 years.....	1	.....	.....	.....	1	.....	.....
Machinery:							
Formers for fur hats.....	294	81	19	104	40	46	4
Miscellaneous expenses:							
Total.....	\$1,416,787	\$392,152	\$97,787	\$253,995	\$300,185	\$351,729	\$20,556
Rent of works.....	\$95,217	\$30,864	\$9,910	\$28,012	\$11,360	\$9,596	\$4,635
Taxes, not including internal revenue.....	\$51,566	\$11,979	\$10,567	\$11,622	\$8,792	\$6,986	\$1,620
Rent of offices, insurance, interest, and all sundry expenses not hitherto included.....	\$1,172,011	\$331,683	\$70,410	\$188,682	\$269,283	\$315,322	\$14,631
Contract work.....	\$97,943	\$35,626	\$6,900	\$24,782	\$10,750	\$19,855	.....

<sup>1</sup> Includes establishments distributed as follows: Delaware, 1; Indiana, 1; Maine, 1; Missouri, 1; Ohio, 1; Rhode Island, 2; West Virginia, 1.

TABLE 40.—FUR HATS, BY STATES: 1900—Continued.

	United States.	Connecticut.	Massachu- setts.	New Jersey.	New York.	Pennsyl- vania.	All other states. <sup>1</sup>
<b>Materials used:</b>							
Total cost.....	\$13,513,668	\$3,685,748	\$1,389,546	\$9,636,521	\$2,607,451	\$1,866,866	\$327,533
Animal hair and fur—							
Buffalo, cow, and other animal hair and fur, pounds.	6,166,269	1,499,767	456,593	1,897,113	1,281,452	817,311	214,033
Cost.....	\$6,376,991	\$1,463,491	\$542,035	\$2,076,259	\$1,163,340	\$933,748	\$198,113
Yarns not made in mill—							
Cotton, pounds.....	2,052					2,052	
Cost.....	\$3,276					\$3,276	
Spun silk, pounds.....	3,541					3,541	
Cost.....	\$24,984					\$24,984	
Fur hat bodies, and hats in the rough, dozens.....	143,212	61,726	29,338	22,711	24,620	5,045	4,772
Cost.....	\$882,986	\$381,362	\$139,839	\$113,197	\$171,660	\$42,341	\$34,537
All other materials which are components of the prod- uct.....	\$3,884,680	\$993,708	\$487,573	\$954,107	\$773,214	\$802,407	\$73,671
Soap, pounds.....	34,065				13,500	5,565	15,006
Cost.....	\$1,535				\$560	\$225	\$750
Chemicals and dyestuffs.....	\$656,794	\$272,635	\$62,930	\$121,917	\$117,681	\$77,317	\$4,314
Fuel.....	\$376,366	\$117,839	\$26,316	\$118,802	\$65,130	\$40,957	\$7,822
Rent of power and heat.....	\$6,310	\$2,045	\$1,012	\$400	\$225	\$1,658	\$970
Mill supplies.....	\$72,793	\$24,918	\$4,140	\$14,983	\$14,568	\$11,114	\$3,070
All other materials.....	\$1,144,685	\$392,809	\$120,540	\$220,219	\$289,665	\$119,624	\$1,823
Freight.....	\$82,268	\$36,941	\$5,111	\$17,137	\$11,411	\$9,215	\$2,453
<b>Products:</b>							
Total value.....	\$27,311,187	\$7,546,882	\$2,630,964	\$7,211,229	\$5,602,458	\$4,243,352	\$576,302
Hats—							
Wool hats, dozens.....	180					180	
Value.....	\$4,320					\$4,320	
Fur hats, dozens.....	1,882,372	497,688	227,032	590,939	226,061	280,880	59,777
Value.....	\$25,385,506	\$6,548,736	\$2,244,941	\$6,773,402	\$5,052,570	\$4,203,169	\$567,688
Partly manufactured products for sale—							
Waste, pounds.....	160,950				160,950		
Value.....	\$3,219				\$3,219		
Fur hat bodies and hats in the rough, dozens.....	165,010	153,188	4,322	7,500			
Value.....	\$992,780	\$946,957	\$8,273	\$37,500			
Value of all other products.....	\$933,493	\$8,818	\$377,750	\$2,040	\$541,710	\$975	\$7,200
Received for contract work.....	\$491,919	\$52,371		\$398,287	\$4,959	\$34,888	\$1,414
<b>Comparison of products:</b>							
Number of establishments reporting for both years.....	146	49	10	53	10	13	6
Value for census year.....	\$25,505,780	\$7,163,221	\$2,500,104	\$6,786,546	\$4,781,639	\$3,774,339	\$549,481
Value for preceding business year.....	\$22,950,739	\$6,359,757	\$2,143,770	\$6,430,270	\$4,287,320	\$3,266,671	\$462,601
<b>Power:</b>							
Number of establishments reporting.....	131	49	8	44	10	15	5
Total horsepower.....	12,625	3,372	1,005	4,077	1,941	1,833	347
Owned—							
Engines—							
Steam, number.....	143	51	9	45	16	19	3
Horsepower.....	11,570	3,216	835	3,684	1,816	1,694	325
Gas or gasoline, number.....	3		1	1			
Horsepower.....	38		10	8	20		
Water wheels, number.....	1	1					
Horsepower.....	25	25					
Electric motors, number.....	30	1	3	7	3	15	1
Horsepower.....	782	2	150	368	101	146	15
Rented—							
Electric horsepower.....	79		10	17	4	43	5
Other kind, horsepower.....	131	129					2
<b>Establishments classified by number of persons employed, not including proprietors and firm members:</b>							
Total number of establishments.....	171	53	11	59	15	20	8
No employees.....	1						
Under 5.....	22	4	1	8	4	3	2
5 to 20.....	30	11	2	7	2	5	3
21 to 50.....	33	10		16	1	5	1
51 to 100.....	23	12	1	9		1	
101 to 250.....	32	14	2	11	2	2	1
251 to 500.....	22	7	4	6	3	2	1
501 to 1,000.....	6		1	2	2	1	
Over 1,000.....	2				1	1	

<sup>1</sup> Includes establishments distributed as follows: Delaware, 1; Indiana, 1; Maine, 1; Missouri, 1; Ohio, 1; Rhode Island, 2; West Virginia, 1.



BY STATES, ARRANGED GEOGRAPHICALLY, 1850-1900.

Miscellaneous expenses.	Cost of materials used.	PRINCIPAL MATERIALS—QUANTITIES CONSUMED.									Value of products.	
		Wool in condition purchased.			Yarns not made in mill.			Raw cotton and cotton warp and yarn not made in mill (pounds).	Animal hair and fur and nolls not made in mill (pounds).	Shoddy not made in mill (pounds).		
		Total (pounds).	Foreign (pounds).	Domestic (pounds).	Merino (pounds).	Woolen (pounds).	Worsted (pounds).					
\$6,599,865 8,627,245 (a) (a) (a) (a)	\$51,071,859 35,861,585 16,210,951 9,835,823 3,202,817 415,113	17,953,907 21,639,393 8,594,895 5,596,955 2,927,026 (9)	3,446,898 2,734,304 448,758 292,300 (2) (9)	14,507,069 18,905,089 8,146,137 5,804,655 (2) (9)	1,981,484 (2) 87,561 (2) (2) (2)	2,621,893 6,386,370 3,753,566 2,229,777 (2) (2)	5,823,215 4,146,035 750,255 (2) (2)	181,271,369 64,681,466 28,485,238 13,652,225 8,892,342 (2)	1,098,854 424,496 66,929 (2) (2) (2)	3,770,026 4,735,144 1,523,263 189,867 (2) (2)	\$95,482,566 67,241,013 29,167,227 18,411,564 7,280,606 1,028,102	1 2 3 4 5 6
1,114,174 929,336	9,325,415 8,661,085 4,034,873 3,282,123 1,092,358	5,716,460 8,398,436 4,348,024 2,483,733 1,457,260	1,408,206 1,035,183 209,440 141,500	4,308,254 7,363,253 4,138,584 2,342,233	141,633	444,321 869,482 674,986 315,419	1,498,439 1,020,615 106,201	26,589,672 12,214,509 3,977,864 4,033,943 1,693,001	93,741 128,525 26,779	922,558 1,081,598 366,843 10,000	17,834,673 16,034,801 7,912,916 6,910,797 2,374,242	7 8 9 10 11
6,389 1,019	10,810 33,339 1,800					18,000 29,075 2,000	12,320	6,000			29,075 76,603 3,000	12 13 14 15 16
176,118 241,201	1,819,170 1,777,695 1,249,600 881,646 388,075	820,271 3,456,174 1,756,332 880,750 362,120	109,163 243,850 76,000 40,500	711,108 3,212,324 1,680,334 840,250	38,000	107,426 96,658 96,500	270,820 106,478 2,500	3,173,765 841,759 1,102,284 946,285 308,280	4,200 5,000	668,821 960,998 186,900	2,592,820 3,481,922 2,862,779 1,767,445 578,794	17 18 19 20 21
108,006 63,188	1,115,324 649,004 359,938 191,219 61,840	540,934 576,069 401,333 146,289 180,000	86,530 66,000	454,404 510,669 401,333 146,289	20,878	2,000 1,200	46,091 500	2,632,214 666,448 406,539 384,789 50,000		161,145 16,882 2,526	1,384,685 1,105,958 595,270 551,120 102,800	22 23 24 25 26
528,108 315,786	2,910,640 2,552,705 1,394,748 1,515,326 132,075	1,146,940 1,812,076 1,088,684 904,900 196,000	2,000 52,989 7,266 25,000	1,144,940 1,759,037 1,081,418 879,900	44,604	128,631 456,440 502,511 249,356	411,468 278,853 88,619	13,526,843 4,466,466 857,700 1,849,994 148,000		65,075 44,500 8,000	6,620,257 5,082,087 2,488,596 3,213,481 314,120	27 28 29 30 31
90,900 110,720	1,766,831 1,618,621 14,888 68,541	735,548 788,311 113,000	28,850 140,000	706,698 648,311 113,000	8,989	181,264 108,159 22,750	581,778 445,633	4,196,940 3,337,264	90,566	12,218	2,713,850 2,516,664 36,000 137,000	32 33 34 35 36
205,658 197,422	2,202,640 2,029,921 1,013,949 625,391 560,368	2,472,767 1,765,206 1,101,675 438,794 769,140	1,181,663 532,344 126,174 76,000	1,291,104 1,232,862 975,601 362,794	29,162	9,000 177,100 50,025 66,063	233,282 177,381 14,582	3,059,910 2,896,593 1,611,341 822,925 1,186,721	3,175 124,325 21,779	27,517 47,000 109,418 10,000	4,043,977 3,771,567 2,432,271 1,251,742 1,383,528	37 38 39 40 41
4,260,577 2,242,276	32,699,721 23,059,630 10,254,739 6,505,973 2,082,314	7,081,403 10,083,581 4,006,871 3,112,622 1,462,866	1,381,117 1,081,363 239,318 150,800	5,650,286 9,002,218 3,767,553 2,961,822	934,460	1,393,685 3,188,204 2,327,394 1,871,183	2,948,525 2,741,794 614,404	128,244,160 47,428,283 24,305,874 9,601,982 2,195,341	685,885 241,049 40,150	2,212,261 3,174,904 1,146,420 179,857	60,478,407 42,993,046 19,696,688 11,406,380 4,847,984	42 43 44 45 46
2,199,029 1,399,427	20,218,200 13,689,169 5,072,058 8,391,840 870,479	5,528,329 9,024,692 2,548,969 2,168,822 689,066	710,884 882,065 186,326 150,800	4,817,495 8,142,627 2,362,643 2,018,022	562,040	902,234 1,034,837 538,467 50,500	1,585,842 695,260 46,159	83,449,895 27,982,069 16,164,505 7,119,839 1,348,941	685,885 215,195 40,000	2,105,354 3,069,939 1,082,011 179,857	35,886,048 24,776,582 9,899,540 5,528,742 1,944,090	47 48 49 50 51
122,374 101,146	997,110 582,783 258,043 188,030 279,952	155,160 404,847 175,184 230,000 419,800	88,068 188,839 5,400	67,092 216,008 169,784 230,000	10,000	43,800 113,600 106,300 1,000	232,157 36,629 3,100	2,140,832 842,202 487,026 216,700 766,400	10,673 150	18,623 15,553	1,748,148 1,091,403 861,131 508,900 783,456	52 53 54 55 56
1,884,722 741,956	10,928,118 8,720,363 4,924,188 2,925,323 928,915	1,347,914 654,042 1,282,718 713,800 354,000	582,215 10,459 47,592	765,699 643,583 1,235,126 718,800	350,011	409,163 1,935,017 1,682,127 1,819,183	1,115,863 1,995,905 565,145	40,541,727 18,488,312 7,654,343 2,264,943 80,000	15,181	106,907 86,342 68,856	21,896,063 16,944,237 8,935,147 5,806,738 2,114,315	57 58 59 60 61
32,471	209,048							1,099,817			429,055	62
21,981 9,747	347,250 87,315 500 780 2,998				12,409	38,488 54,750 500 500	14,663 14,000	1,011,889 115,700			514,093 180,823 720 1,000 6,123	67 68 69 70 71

<sup>1</sup> Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 42.)

<sup>2</sup> Not reported separately.

<sup>3</sup> Not reported.

<sup>4</sup> At the census of 1850 totals for the different states were not published, totals for the United States only being given.

<sup>5</sup> No establishments reported.

<sup>6</sup> Maryland is classed in this table as a Middle state for purposes of comparison.



BY STATES, ARRANGED GEOGRAPHICALLY, 1850 TO 1900—Continued.

Miscellaneous expenses.	Cost of materials used.	PRINCIPAL MATERIALS—QUANTITIES CONSUMED.									Value of products.
		Wool in condition purchased.			Yarns not made in mill.			Raw cotton and cotton warp and yarn not made in mill (pounds).	Animal hair and fur and noils not made in mill (pounds).	Shoddy not made in mill (pounds).	
		Total (pounds).	Foreign (pounds).	Domestic (pounds).	Merino (pounds).	Woolen (pounds).	Worsted (pounds).				
\$346,408 52,760	\$2,798,219 459,808 1,700	58,000 56,500	10,000	48,000 56,500	353,580	2,000 200 1,400	72,600	16,584,551 2,380,475		150,007 140,000	\$5,031,336 973,135 2,600 11,700
119,198	797,818				2,400	2,000	2,600	6,234,312		90,694	1,498,066
85,920 3,097	504,027 66,925							3,436,982 277,000		20,000	1,023,150 126,875
38,887	237,622							1,737,039			392,237
72,631 10,605	757,430 70,697				1,180			3,707,218 486,340			1,230,801 166,850
	5,900	1,000									11,700
10,270	248,950						20,000	1,099,000			395,150
8,422	103,893							545,400			190,725
2,480	53,202							420,000			151,180
69,502 33,156	252,372 160,091 1,700	58,000 56,500	10,000	48,000 56,500	350,000	200 1,400	50,000	370,000 651,735		39,813 140,000	491,932 337,506 2,600
878,706 402,873	6,248,504 3,630,462 919,639 47,727 21,715	5,148,044 3,100,876 240,000 600 6,500	647,515 617,758	4,500,529 2,483,118 240,000 600	551,811	781,887 2,328,534 749,786 43,175	1,308,651 383,626 29,650	9,852,986 2,658,199 201,500 16,800 4,000	314,228 54,922	485,800 338,642 10,000	12,143,150 7,240,031 1,555,123 95,887 46,680
99,411 68,991	807,673 914,085 241,583 10,360 13,515	140,500 859,000	15,000 4,000	125,500 355,000	202,934	64,823 851,313 241,850 10,600	455,569 145,857 8,850	482,372 296,372 6,000 4,000	5,053	70,000 5,000	1,576,285 1,635,948 418,825 28,100 31,800
265,124 67,901	1,459,378 285,057 226,627	1,434,998 247,081 180,000	32,905 25,000	1,402,093 222,081 180,000	178,866	205,029 121,667 154,600	238,822 19,400 5,000	1,919,138 332,955 41,300	8,605	154,304 30,937 10,000	2,791,257 701,922 377,249
108,442 70,437	1,200,483 408,195 103,280 2,842	1,214,122 1,095,253	523,216 568,758	690,906 526,495	15,000	74,098 76,300 2,575	5,995 3,342 5,200	1,118,533 292,826 30,000	300,000 25,762	92,763 143,572	2,424,304 827,104 158,200 5,450
223,216 102,727	1,176,146 899,371 9,125	799,357 581,042	76,394 20,000	722,963 561,042	109,643	276,286 886,786 7,100	277,930 84,047 700	1,656,901 267,906	5,265 11,660	54,833 131,213	2,486,813 1,635,641 18,817
126,882 68,123	1,261,242 980,780 290,895 5,775	1,514,400 818,500 60,000 600		1,514,400 818,500 60,000 600	10,500	109,600 251,020 226,800 5,100	215,700 72,480 10,000	4,140,150 1,848,620 112,900 100		111,500 27,920	2,145,429 1,990,035 484,124 8,800

<sup>a</sup>Includes establishments, distributed as follows: 1900—Alabama, 1; Louisiana, 1; Mississippi, 1; Texas, 1; West Virginia, 2. 1890—Florida, 1; Kentucky, 2; Virginia, 2; West Virginia, 2. 1880—West Virginia, 1.



## MANUFACTURES.

TABLE 41.—HOSIERY AND KNIT GOODS: COMPARATIVE SUMMARY

STATES.	Year.	Number of establishments.	Capital.	SALARIED OFFICIALS, CLERKS, ETC.		AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES.					MACHINERY.					
				Number.	Salaries.	Total.		Men, 16 years and over.	Women, 16 years and over.	Children under 16 years.	Cards.	Comb-ing machines.	Knitting machines.	Sewing machines.	Looms.	Spindles.
						Average number.	Wages.									
Western states—Continued.																
Minnesota.....	1900	8	484,004	21	26,657	293	77,589	51	206	36	3		476	94		1,418
	1890	3	247,498	10	15,356	119	31,000	17	102				152			
	1880	1	8,000			12	2,819	8	4				10	2		1
	1870	1	160			1		1								1
	1860															
Iowa.....	1900															
	1890	3	8,950	2	320	7	1,730	1	6				14			
	1880	3	2,200			6	460	3	3				7			
	1870	2	5,200			6	1,200	3	3							
	1860															
Missouri.....	1900															
	1890	7	83,247	8	6,188	117	28,289	1	116				146			
	1880	4	29,400			118	19,300	8	114	1			68			
	1870	7	15,700			61	15,600	19	41	1			88			
	1860	2	11,000			10	2,964	10								
Utah.....	1900	5	52,550	13	5,260	91	21,599	15	72	4			101	20		
	1890	5	33,370	5	3,070	65	18,950		60	5			73			
	1880															
	1870															
	1860															
California.....	1900	3	89,160	10	12,160	79	27,880	6	66	7			82	43		
	1890															
	1880															
	1870															
	1860															
All other Western states. <sup>3</sup>	1900	9	145,323	17	14,294	133	25,570	21	91	21	1		187	5		200
	1890	7	49,085	10	9,255	144	44,216	16	128				87			
	1880															
	1870															
	1860															

<sup>1</sup> No establishments reported.<sup>2</sup> Included in "all other Western states."<sup>3</sup> Includes establishments, distributed as follows: 1900—Idaho, 1; Iowa, 2; Kansas, 1; Missouri, 2; Montana, 1; Nebraska, 1; Oregon, 1. 1890—California, 2; Colorado, 2; Kansas, 1; Nebraska, 1; Washington, 1.

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BY STATES, ARRANGED GEOGRAPHICALLY, 1850-1900—Continued.

Miscellaneous expenses.	Cost of materials used.	PRINCIPAL MATERIALS—QUANTITIES CONSUMED.								Value of products.	
		Wool in condition purchased.			Yarns not made in mill.			Raw cotton and cotton warp and yarn not made in mill (pounds).	Animal hair and fur and noils not made in mill (pounds).		Shoddy not made in mill (pounds).
		Total (pounds).	Foreign (pounds).	Domestic (pounds).	Merino (pounds).	Woolen (pounds).	Worsted (pounds).				
\$31,470 24,345	\$197,184 87,682 5,000 200	37,667		37,667	30,000	71,043 64,000 5,000 200	54,098 41,000 400	339,232 42,000	305		\$410,092 183,743 183,743 10,000 500
419	1,975 1,554 1,510					1,275 1,536 300		3,000 600			5,763 2,908 2,887
3,803	30,524 41,575 27,040 8,200					30,325 36,500 24,400	4,500	37,500 11,300 15,600			81,445 85,000 54,650 14,880
4,577 2,146	24,184 25,475	3,000		3,000		11,625 31,375	10,450 2,500	15,700 500			66,357 53,500
10,570	71,751				4,868	14,481	48,437	30,020			126,980
9,564	50,463	4,000		4,000		29,000	1,600	150,940		2,400	115,633
3,981	47,388					16,675	15,000	36,500			125,470

TABLE 42.—HOSIERY AND KNIT GOODS:

	United States.	California.	Connecticut.	Delaware.	Georgia.
1 Number of establishments.....	921	8	25	7	16
2 Character of organization:					
3 Individual.....	353	1	6	2	2
4 Firm and limited partnership.....	252	2	2	1	1
5 Incorporated company.....	312	2	17	5	13
6 Miscellaneous.....	4				
7 Capital:					
8 Total.....	\$31,860,004	\$89,160	\$6,149,338	\$298,511	\$928,837
9 Land.....	\$3,367,762		\$160,000	\$9,000	\$21,836
10 Buildings.....	\$9,556,726	\$4,000	\$632,590	\$25,808	\$85,012
11 Machinery, tools, and implements.....	\$24,086,431	\$17,910	\$1,306,134	\$162,785	\$416,329
12 Cash and sundries.....	\$44,899,685	\$67,250	\$4,050,614	\$100,923	\$405,710
13 Proprietors and firm members.....	776		12	2	
14 Salaried officials, clerks, etc.:					
15 Total number.....	2,809	10	101	19	46
16 Total salaries.....	\$8,124,798	\$12,160	\$159,300	\$14,686	\$39,467
17 Officers of corporations—					
18 Number.....	439	2	31	8	11
19 Salaries.....	\$763,316	\$4,800	\$69,050	\$9,200	\$11,907
20 General superintendents, managers, clerks, etc.—					
21 Total number.....	2,370	8	70	11	35
22 Total salaries.....	\$2,361,482	\$7,360	\$90,250	\$5,486	\$27,560
23 Men—					
24 Number.....	1,965	7	60	6	33
25 Salaries.....	\$2,188,207	\$6,560	\$84,864	\$8,386	\$26,780
26 Women—					
27 Number.....	405	1	10	5	2
28 Salaries.....	\$173,275	\$800	\$5,386	\$2,100	\$780
29 Wage-earners, including pieceworkers, and total wages:					
30 Greatest number employed at any one time during the year.....	95,726	94	3,469	713	1,518
31 Least number employed at any one time during the year.....	71,829	58	2,978	511	1,153
32 Average number.....	83,387	79	3,243	582	1,208
33 Total wages.....	\$24,358,627	\$27,880	\$1,131,078	\$123,103	\$200,662
34 Men, 16 years and over—					
35 Average number.....	21,154	6	966	85	217
36 Wages.....	\$8,890,728	\$3,200	\$447,414	\$25,990	\$64,148
37 Women, 16 years and over—					
38 Average number.....	53,565	66	2,181	408	682
39 Wages.....	\$14,213,808	\$23,500	\$606,597	\$84,307	\$104,754
40 Children, under 16 years—					
41 Average number.....	8,668	7	96	89	309
42 Wages.....	\$1,224,091	\$1,180	\$17,067	\$13,406	\$31,760
43 Average number of wage-earners, including pieceworkers, employed during each month:					
44 Men, 16 years and over—					
45 January.....	19,995	6	923	80	194
46 February.....	20,902	5	938	77	200
47 March.....	21,310	6	980	87	208
48 April.....	21,569	6	970	85	242
49 May.....	21,718	6	972	88	222
50 June.....	21,393	6	972	84	210
51 July.....	21,052	6	945	85	210
52 August.....	21,033	6	966	89	222
53 September.....	21,183	6	974	89	221
54 October.....	21,565	6	984	88	223
55 November.....	21,430	6	985	88	222
56 December.....	20,698	6	978	85	222
57 Women, 16 years and over—					
58 January.....	51,125	55	2,062	424	655
59 February.....	52,499	52	2,139	399	662
60 March.....	54,352	67	2,185	430	678
61 April.....	55,419	66	2,199	405	723
62 May.....	54,873	67	2,227	392	718
63 June.....	53,865	56	2,159	367	685
64 July.....	52,485	65	2,111	370	663
65 August.....	52,444	70	2,182	356	669
66 September.....	53,427	72	2,237	414	691
67 October.....	54,650	71	2,230	449	677
68 November.....	54,468	76	2,226	448	677
69 December.....	53,174	76	2,182	440	674
70 Children, under 16 years—					
71 January.....	8,510	5	89	70	310
72 February.....	8,608	6	91	84	316
73 March.....	8,820	7	97	85	323
74 April.....	8,973	7	97	87	326
75 May.....	9,053	7	101	88	322
76 June.....	8,658	6	99	87	304
77 July.....	8,394	7	95	77	280
78 August.....	8,474	7	99	85	293
79 September.....	8,566	8	96	99	302
80 October.....	8,546	8	92	97	300
81 November.....	8,753	8	100	99	316
82 December.....	8,661	8	99	94	315
83 Skilled operatives, average number:					
84 Spinners—					
85 Men, 16 years and over.....	1,624		142		
86 Women, 16 years and over.....	273				
87 Children, under 16 years.....	92				
88 Knitters—					
89 Men, 16 years and over.....	4,615	5	82	9	45
90 Women, 16 years and over.....	11,482	36	348	207	46
91 Children, under 16 years.....	1,501	4		29	18
92 Finishers—					
93 Men, 16 years and over.....	2,427		54	30	19
94 Women, 16 years and over.....	16,502	37	705	123	149
95 Children, under 16 years.....	950	2		5	12
96 Machinery:					
97 Sets of woolen cards.....	1,161		134		
98 Combing machines, number.....	15		9		
99 Of American manufacture.....	8		5		
100 Of foreign manufacture.....	7		4		
101 Spindles, number.....	521,871		79,596		
102 Spinning—					
103 Woolen.....	290,366		32,876		
104 Worsted.....	14,064		6,000		
105 Cotton.....	205,742		39,500		

## SUMMARY BY STATES, 1900.

Illinois.	Indiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	New Hampshire.	
14	7	8	4	54	82	8	22	1
7		1		18	5			2
2	1	2	1	9	4	8	8	3
5	6		3	27	23	1	8	4
						4	2	5
\$1,580,900	\$2,728,306	\$9,000	\$311,508	\$6,288,672	\$2,135,916	\$484,004	\$2,525,286	6
\$28,200	\$76,200		\$3,000	\$369,004	\$30,922	\$29,000	\$208,756	7
\$167,387	\$188,602		\$8,083	\$711,522	\$194,080	\$78,000	\$374,085	8
\$521,250	\$876,771	\$4,400	\$94,789	\$1,268,522	\$495,552	\$120,858	\$656,251	9
\$814,153	\$2,087,733	\$4,600	\$205,686	\$3,939,534	\$1,355,352	\$256,151	\$1,286,194	10
6		6	2	86	4	1	16	11
46	108		28	166	201	21	51	12
\$66,720	\$201,085		\$14,518	\$212,753	\$187,574	\$26,657	\$58,011	13
12	18		8	29	22	7	11	14
\$26,500	\$43,879		\$4,179	\$50,260	\$33,920	\$18,500	\$17,650	15
34	85		20	137	14	14	40	16
\$40,220	\$157,206		\$10,339	\$162,493	\$153,654	\$8,167	\$40,861	17
26	84		19	106	124	10	31	18
\$34,100	\$156,816		\$10,300	\$148,104	\$130,358	\$6,767	\$37,214	19
8	1		1	31	4	9	9	20
\$9,120	\$390		\$39	\$14,389	\$23,296	\$1,400	\$3,147	21
1,934	2,165	41	765	7,690	3,040	380	2,974	22
1,572	1,273	36	609	5,715	2,071	194	2,040	23
1,805	2,016	37	682	6,667	2,509	293	2,492	24
\$494,285	\$708,129	\$7,425	\$119,456	\$2,091,258	\$580,129	\$77,689	\$790,558	25
417	1,032	4	60	1,658	498	51	390	26
\$178,298	\$518,724	\$1,300	\$23,715	\$752,031	\$172,085	\$18,553	\$339,032	27
1,223	874	31	526	4,549	1,873	206	1,514	28
\$203,337	\$176,925	\$6,000	\$89,754	\$1,263,543	\$391,845	\$53,876	\$434,417	29
155	110	2	96	460	138	36	88	30
\$22,660	\$9,480	\$125	\$5,987	\$75,684	\$16,699	\$5,160	\$17,109	31
429	1,044	4	62	1,681	396	86	783	32
430	1,029	3	64	1,656	448	41	847	33
430	1,045	5	65	1,673	479	39	884	34
431	1,027	6	65	1,658	510	44	902	35
406	1,038	6	50	1,596	514	61	900	36
406	1,039	6	56	1,617	583	58	914	37
405	1,029	2	56	1,611	529	63	888	38
405	1,048	2	64	1,616	563	69	869	39
407	1,035	2	61	1,677	563	60	893	40
423	1,017	3	59	1,696	562	63	920	41
424	1,022	3	61	1,713	471	64	964	42
	1,016	3	64	1,709	417	64	912	43
1,063	878	29	545	4,657	1,688	110	1,295	44
1,171	829	29	549	4,745	1,756	121	1,354	45
1,261	888	29	550	4,808	1,854	138	1,451	46
1,265	911	29	552	4,837	2,016	177	1,495	47
1,246	846	29	491	4,822	1,989	218	1,542	48
1,246	893	29	503	4,811	1,857	242	1,556	49
1,251	917	32	514	4,109	1,854	264	1,555	50
1,249	877	32	518	4,121	1,913	264	1,549	51
1,258	851	32	516	4,847	1,985	259	1,552	52
1,258	850	32	510	4,636	2,010	257	1,586	53
1,265	880	32	526	4,820	1,830	241	1,630	54
1,264	869	32	538	4,872	1,727	182	1,601	55
149	94	2	112	454	137	36	80	56
156	94	2	111	471	137	36	85	57
156	98	2	109	475	137	36	92	58
156	115	3	112	484	137	36	90	59
156	112	3	95	467	138	36	89	60
156	118	3	100	453	138	36	89	61
156	112	3	91	446	138	36	92	62
156	121	3	92	457	138	36	88	63
156	118	2	84	449	138	36	88	64
156	112	3	83	437	139	36	88	65
156	112	3	85	457	139	36	80	66
156	114	2	88	465	138	36	86	67
37	15			88	63	1	66	68
	12			27	1	3	3	69
							5	70
144	124		14	379	307	15	261	71
594	208		37	496	774	93	854	72
27				26	26		16	73
134	68		18	227	73	7	104	74
524	495		21	120	1,578	64	852	75
110	22			11	24			76
7	27			39	28	3	74	77
				3				78
				3				79
3,480	8,500			108,988	6,686	1,418	26,867	81
3,480	8,400			8,582	5,284	1,248	20,136	82
				8,500	960			83
				90,780			6,320	84

TABLE 42.—HOSIERY AND KNIT GOODS.

	United States.	California.	Connecticut.	Delaware.	Georgia.
Machinery—Continued.					
Spindles, number—Continued.					
Doubling—					
Woolen.....	8,618				
Worsted.....	7,130		960		
Cotton.....	956		200		
Looms on woolen or worsted goods, number.....	183				
Narrow, under 50-inch reed space—					
On woolen goods.....	180				
Hand—					
On woolen or worsted goods.....	3				
Braiders, number.....	128				
Sewing machines, number.....	24,585	43	988	248	236
Knitting machines, number.....	30,047	82	2,662	674	1,078
Spring-beard needle—					
Flat, ribbed.....	1,691		420	30	
Flat, plain.....	1,432		19	12	
Full fashioned, flat, ribbed.....	65		6		
Full fashioned, flat, plain.....	1,069		542		
Circular, ribbed.....	1,467		45		
Circular, plain.....	6,753		618	8	
Circular, hosiery, automatic.....	1,700		28	8	10
Lamb, and other variety, hand.....	336				
Latch needle—					
Flat, ribbed.....	1,655		66	19	22
Flat, plain.....	1,936				10
Full fashioned, flat, ribbed.....	358		7		
Full fashioned, flat, plain.....	869				
Circular, ribbed.....	17,490	8	237	248	262
Circular, plain.....	6,760		44	3	16
Circular, hosiery, automatic.....	39,993	6	580	341	769
Lamb, and other variety, hand.....	5,473	68	50	5	
Miscellaneous expenses:					
Total.....	\$6,599,865	\$10,570	\$205,658	\$32,471	\$72,631
Rent of works.....	\$424,250	\$1,800	\$12,370	\$1,875	\$910
Taxes, not including internal revenue.....	\$286,780	\$540	\$23,990	\$689	\$5,953
Rent of offices, insurance, and all sundry expenses not hitherto included.....	\$4,747,007	\$3,230	\$184,698	\$29,657	\$55,496
Contract work.....	\$1,141,828		\$14,600	\$300	\$10,872
Materials used:					
Total cost.....	\$61,071,859	\$71,751	\$2,202,640	\$209,048	\$757,430
Wool—					
Foreign, in condition purchased, pounds.....	3,446,838		1,181,663		
Cost.....	\$1,944,397		\$470,436		
Domestic, in condition purchased, pounds.....	14,507,069		1,291,104		
Cost.....	\$3,917,738		\$344,178		
Foreign and domestic, etc., scoured, pounds.....	18,031,308		1,722,259		
Animal hair and fur—					
Mohair, pounds.....	631,199				
Cost.....	\$44,953				
Buffalo, cow, and other animal hair and fur, pounds.....	330,920				
Cost.....	\$11,175				
Cotton, bales.....	99,518		4,588		
Cost.....	49,451,301		2,068,413		
Materials, not made in mill—	\$3,561,592		\$176,729		
Shoddy, pounds.....	3,770,626		27,517		
Cost.....	\$488,792		\$4,862		
Wool waste and noils, pounds.....	5,276,454		493,216		
Cost.....	\$1,487,907		\$117,935		
Camel, alpaca, and vicuña noils, pounds.....	131,635		9,175		
Cost.....	\$39,832		\$1,352		
Mohair noils, pounds.....	100				
Cost.....	\$25				
Tops, pounds.....	133,614		12,066		
Cost.....	\$92,103		\$7,188		
Yarns, not made in mill—					
Woolen, pounds.....	2,621,893	14,481	9,000		
Cost.....	\$1,257,587	\$13,802	\$5,455		
Worsted, pounds.....	5,823,215	48,487	239,282		
Cost.....	\$4,865,804	\$36,939	\$224,548		
Merino, pounds.....	1,981,484	4,868	29,162		
Cost.....	\$642,535	\$2,362	\$24,116		
Cotton, pounds.....	131,820,068	30,020	991,497	1,099,817	1,180
Cost.....	\$22,204,918	\$9,046	\$250,011	\$167,700	\$413
Silk, pounds.....	162,424	203	801		\$3,707,213
Cost.....	\$669,236	\$1,583	\$4,726		\$624,311
Spun silk, pounds.....	103,823	1,076	12,749		
Cost.....	\$277,565	\$3,179	\$30,974		
Linen, pounds.....	71,478	657	8,000		
Cost.....	\$53,588	\$490	\$3,000		
Jute, ramie, or other vegetable fiber, pounds.....	44,682				
Cost.....	\$57,677				
All other materials which are components of product.....	\$3,932,624		\$38,074	\$28,522	\$55,074
Soap, pounds.....	5,908,557		605,522	3,500	5,852
Cost.....	\$204,485		\$29,757	\$190	\$234
Oil for preparing wool for cards or combs, gallons.....	396,278		92,183		60
Chemicals and dyestuffs.....	891,315		\$19,057		\$25
Fuel.....	\$1,023,161		\$40,094	\$7,200	\$12,063
Rent of power and heat.....	\$738,039	\$800	\$44,644	\$4,595	\$10,453
Mill supplies.....	\$131,503	\$200	\$2,950		\$436
All other materials.....	\$312,214	\$100	\$15,042		\$9,080
Freight.....	\$8,236,699	\$1,850	\$327,171	\$200	\$59,546
Cotton yarn made in mill for use therein, pounds.....	\$384,895	\$1,400	\$23,732	\$816	\$3,790
Products:	40,845,889		338,929		
Total value.....	\$95,482,566	\$126,980	\$4,043,977	\$429,055	\$1,230,801
Partly manufactured products for sale—					
Woolen yarn, all wool, pounds.....	79,027				
Value.....	\$38,307				
Worsted yarn and tops, pounds.....	51,202				
Value.....	\$36,308				
Woolen or worsted yarn, union or merino, cotton mixed, pounds.....	4,300				
Value.....	\$2,080				
Cotton yarn, pounds.....	2,419,282				
Value.....	\$422,100				
Waste, pounds.....	385,883				
Value.....	\$31,267			25,872	\$765

## SUMMARY BY STATES, 1900—Continued.

Illinois.	Indiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	New Hampshire.	
	100				440	170	411	85
				5,600	2			86
				576				87
								88
								89
								90
282	272	8	70	1,855	588	94	348	91
1,975	688	126	612	5,008	2,828	476	23,174	92
1	7			184	5		1	94
2				36	141		4	95
	17			2			1	96
30	54			74			27	97
	32			75	92		80	98
				829	255		78	99
				21	12	3	78	100
				35	62		1	101
25				115			11	102
	18			83	38		123	103
60				2				104
400	6			6	40	18	275	105
391	104		100	1,006	521	75	1,015	106
152	151		454	211	409	100	812	107
597	114		58	2,130	380	183	21,014	108
817	180	126		294	870	37	169	109
\$126,332	\$108,442	\$6,389	\$21,981	\$528,103	\$265,124	\$81,470	\$175,118	110
\$14,132	\$200	\$200	\$1,300	\$15,580	\$10,227	\$399	\$11,625	111
\$7,204	\$8,373	\$58	\$851	\$55,519	\$9,912	\$1,297	\$9,892	112
\$104,996	\$100,069	\$1,631	\$16,943	\$340,054	\$209,852	\$23,111	\$139,061	113
		\$4,600	\$2,887	\$113,950	\$35,135	\$163	\$14,540	114
\$1,261,242	\$1,200,483	\$10,810	\$347,250	\$2,910,640	\$1,459,878	\$197,184	\$1,319,170	115
	523,216			2,000	32,905		109,163	116
	\$75,832			\$1,000	\$5,387		\$48,474	117
1,514,400	690,906			1,144,940	1,402,093	37,067	711,103	118
\$205,760	\$129,323			\$252,252	\$294,169	\$18,937	\$155,076	119
764,400	588,081			671,387	1,582,564	37,607	441,685	120
								121
	300,000				505			122
	\$9,000				\$45			123
117	2,674			21,908	351		4,034	124
322,500	173,038			10,915,958	182,467	163	1,942,884	125
\$23,125	\$12,585			\$781,259	\$15,727	84,264	\$177,079	126
						\$6,240		127
111,500	92,763			65,075	154,304		668,821	128
\$18,728	\$15,037			\$9,797	\$20,266		\$124,316	129
150,000	187,515			204,756	\$5,173	24,950	128,436	130
\$18,000	\$28,518			\$68,796	\$21,683	\$2,495	\$47,541	131
					3,100			132
					\$493	\$61		133
								134
								135
								136
								137
				5,000				138
				\$3,400				139
109,600		18,000	38,488	128,031	205,029	71,043	107,426	140
\$70,475		\$10,200	\$16,905	\$63,321	\$99,098	\$26,131	\$82,986	141
215,700	5,995		14,663	411,468	238,822	\$4,098	270,820	142
\$186,400	\$5,026		\$8,911	\$380,425	\$220,029	\$45,419	\$284,096	143
10,500	15,000		12,409	44,604	178,865	30,000	\$3,000	144
\$3,700	\$3,161		\$4,891	\$27,794	\$67,018	\$9,800	\$5,220	145
\$,817,650	945,495		1,011,889	2,610,885	1,736,671	254,968	1,230,851	146
\$571,961	\$184,487		\$214,709	\$628,635	\$360,351	\$62,271	\$229,773	147
5,600				10,114	5,271		2,000	148
\$30,000				\$31,816	\$19,004		\$3,012	149
7,000				20,570	1,263		300	150
\$23,000				\$64,044	\$3,908	\$1,482	\$210	151
	1,000			678				152
	\$1,200			\$678				153
					4,000			154
\$1,650	\$671,305	\$50	\$79,560	\$134,259	\$3,400	\$5,595	\$34,493	155
200,000	108,875		9,000	260,776	\$148,411	40,420	395,651	156
\$3,000	\$3,455		\$439	\$7,682	225,480	\$1,570	\$13,063	157
4,100	8,490		115	12,508	\$8,403	1,229	26,315	158
\$1,200	\$1,926		\$53	\$1,602	14,400	\$202	\$7,357	159
\$24,200	\$19,550		\$4,627	\$121,525	\$32,154	\$3,625	\$66,640	160
\$18,028	\$17,725	\$100	\$3,167	\$63,119	\$25,099	\$6,805	\$26,079	161
\$9,512	\$510	\$10		\$8,595	\$4,049	\$50	\$2,490	162
\$4,080	\$8,535	\$210	\$1,300	\$22,834	\$9,012	\$668	\$12,665	163
\$25,824	\$6,476		\$10,677	\$163,884	\$74,250	\$5,246	\$77,521	164
\$22,599	\$6,232	\$240	\$2,011	\$23,923	\$14,299	\$5,848	\$18,924	165
	115,000			8,555,495	154,626		457,998	166
\$2,145,429	\$2,424,304	\$29,075	\$514,093	\$6,620,257	\$2,791,257	\$410,092	\$2,592,829	167
								168
								169
								170
								171
								172
								173
				1,830,670				174
				\$336,887				175
			1,063	172,979			5,000	176
			\$609	\$6,959			\$2,756	177

TABLE 42.—HOSIERY AND KNIT GOODS:

	United States.	California.	Connecticut.	Delaware.	Georgia.
Product—Continued.					
Total value—Continued.					
Hosiery and knit goods—					
Hose and half hose—					
Woolen—					
179 Half hose, dozens.....	939,957	20	107,213		
180 Value.....	\$1,738,535	\$80	\$224,634		
181 Hose, dozens.....	1,176,705	50	3,998		
182 Value.....	\$2,267,681	\$400	\$14,208		
Merino or mixed—					
183 Half hose, dozens.....	957,520		125,602		690
184 Value.....	\$1,384,764		\$163,491		\$619
185 Hose, dozens.....	436,891				
186 Value.....	\$659,959				
Cotton—					
187 Half hose, dozens.....	11,352,081		25,811	149,238	794,315
188 Value.....	\$7,906,945		\$70,014	\$88,181	\$430,610
189 Hose, dozens.....	15,028,173		70,007	341,612	400,427
190 Value.....	\$13,275,732		\$75,717	\$228,575	\$321,058
191 Silk hose, dozens.....	12,572		420		
192 Value.....	\$186,413		\$4,081		
Shirts and drawers—					
Merino or mixed, dozens.....	2,675,416	100	298,148		
193 Value.....	\$13,293,829	\$500	\$1,999,994		
194 All wool, dozens.....	1,085,046	400	58,479		
195 Value.....	\$4,980,818	\$5,000	\$533,651		
196 All cotton, dozens.....	12,058,431		159,169	12,456	205,165
197 Value.....	\$26,882,902		\$446,073	\$20,275	\$432,329
198 Silk or silk mixed, dozens.....	54,807	100	4,514		
199 Value.....	\$518,045	\$4,000	\$86,318		
Combination suits—					
Merino or mixed, dozens.....	139,994		898		
201 Value.....	\$1,133,328		\$13,450		
202 All wool, dozens.....	9,501	50			
203 Value.....	\$201,667	\$600			
204 All cotton, dozens.....	824,632		256	28,867	20,000
205 Value.....	\$2,240,566		\$2,828	\$72,940	\$40,000
206 Silk or silk mixed, dozens.....	12,728				
207 Value.....	\$116,286				
Leggins and gaiters, dozens.....	71,038	50	1,350		
209 Value.....	\$248,523	\$500	\$4,650		
210 Gloves and mittens, dozens.....	1,898,587		16,250		
211 Value.....	\$4,244,046		\$47,825		
212 Hoods, scarfs, nubbies, etc., dozens.....	343,429	500			
213 Value.....	\$1,002,392	\$5,000			
Cardigan jackets, sweaters, athletic goods, fancy jackets, etc., dozens.....	594,080	1,200	50		
215 Value.....	\$3,498,837	\$24,000	\$2,500		
216 Shawls, dozens.....	157,622				
217 Value.....	\$328,720				
218 Fancy knit goods, wristers, etc., dozens.....	284,685	10			
219 Value.....	\$951,052	\$100			
220 Boot and shoe linings, square yards.....	10,406,440		988,295		
221 Value.....	\$2,205,003		\$98,603		
222 Astrakhans, square yards.....	664,779				
223 Value.....	\$332,488				
224 Jersey cloth and stockinette, square yards.....	4,488,911		174,604		
225 Value.....	\$1,805,376		\$84,807		
226 All other products.....	\$3,774,671	\$86,800	\$144,257		\$6,155
227 Amount received for contract work.....	\$278,931		\$26,876	\$18,319	
228 Comparison of products.					
229 Number of establishments reporting for both years.....	716	8	24	7	10
230 Value for census year.....	\$85,163,454	\$126,980	\$4,003,802	\$429,055	\$1,055,797
231 Value for preceding business year.....	\$74,917,674	\$112,888	\$3,542,686	\$364,845	\$863,775
Power:					
232 Number of establishments reporting.....	882	1	24	7	15
233 Total horsepower.....	58,087	10	3,108	246	567
Owned—					
Engines—					
234 Steam, number.....	697		26	8	14
235 Horsepower.....	89,693		2,230	246	517
236 Gas or gasoline, number.....	28	1			
237 Horsepower.....	203	7			
238 Water wheels, number.....	206		19		1
239 Horsepower.....	14,824		871		80
240 Electric motors, number.....	71				1
241 Horsepower.....	745				10
242 Other power, number.....	1				
243 Horsepower.....	4				
Rented horsepower—					
244 Electric.....	1,303	3	2		
245 Other kind.....	1,315		5		10
246 Furnished to other establishments, horsepower.....	398		3	45	
Establishments classified by number of persons employed, not including proprietors and firm members:					
247 Total number of establishments.....	921	3	25	7	16
248 No employees.....	5		1		
249 Under 5.....	46	1	1		
250 5 to 20.....	165	1	3		1
251 21 to 50.....	221		3		4
252 51 to 100.....	175	1	3	2	8
253 101 to 250.....	213		11	3	1
254 251 to 500.....	74		2		2
255 501 to 1,000.....	20				
256 Over 1,000.....	2				



Illinois.	Indiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	New Hampshire.
117,517	81,696		16,947	32,009	28,542	14,210	217,381
\$189,232	\$61,327		\$30,304	\$72,444	\$101,709	\$32,330	\$356,591
117,726	8,450	100	7,215	21,311	27,838	6,438	667,510
\$254,244	\$19,520	\$500	\$12,627	\$44,353	\$115,380	\$17,608	\$305,811
58,334	15,300			48,149	43,140	10,283	139,038
\$48,564	\$25,245			\$49,225	\$87,046	\$20,175	\$230,406
58,333	7,450			2,160	44,134	10,551	108,899
\$66,040	\$12,292			\$3,240	\$103,681	\$17,779	\$103,769
1,193,150	86,121		172,525	223,420	173,282	3,137	
\$600,056	\$98,754		\$145,898	\$321,076	\$152,626	\$34,140	
469,000	198,836		26,624	2,031,921	128,726	51,355	\$569,489
\$390,000	\$304,659		\$25,155	\$1,384,865	\$150,532	\$30,813	\$408,301
				4,902			
				\$77,112			
2,000	3,547			75,121	2,543	6,191	145,522
\$20,000	\$35,470			\$284,956	\$29,567	\$41,631	\$442,271
16,679	13,664			64,356	2,998	967	8,000
\$61,288	\$163,968			\$505,379	\$61,977	\$13,067	\$76,000
2,000	17,742		100,000	\$52,167	303,955	2,272	40,058
\$10,000	\$48,790		\$300,000	\$2,304,872	\$420,716	\$10,600	\$102,116
6,300				4,500	368		1,128
\$72,172				\$37,830	\$11,597		\$7,724
				30,514	8,378	4,943	792
14				\$231,433	\$103,569	\$75,443	\$7,128
\$340				909	1,650		
				\$23,897	\$56,418		
				12,069	4,034	8,309	6,014
				\$96,406	\$51,300	\$65,679	\$24,056
506				1,281	586		
\$1,372				\$16,200	\$27,654		
200,381	45,798	100		4,352	3,271		
\$353,711	\$87,281	\$276		\$24,987	\$12,199		
				51,440	298,382	495	
				\$110,449	\$733,954	\$1,055	
				1,060		100	
6,310		1,000		\$6,850		\$400	
\$59,600		\$13,500		7,476	1,090	1,616	116
				\$116,756	\$20,020	\$23,225	\$4,211
				416			
11,000				\$1,261			
\$2,600				10,841	12,074	50	4
				\$26,860	\$12,148	\$500	\$40
				905,000			
				\$235,750			
				24,000	111,300		
				\$11,843	\$61,232		
				461,134	20,000		
\$15,510	\$1,566,998			\$169,051	\$5,000		
\$200		\$14,800		\$32,885	\$463,932	\$24,947	\$10,949
				\$92,326		\$400	\$10,700
14	7	1	4	44	27	7	20
\$2,145,429	\$2,424,304	\$3,000	\$514,093	\$5,412,114	\$2,593,430	\$405,517	\$2,467,919
\$1,839,794	\$2,063,379	\$8,500	\$490,650	\$5,402,826	\$1,991,189	\$353,820	\$2,208,465
9	7			46	30	7	20
902	1,519		160	6,725	1,482	304	2,313
8	11		6	46	22	6	10
490	585		160	4,633	1,050	250	570
1				1	4	2	
10				8	32	13	

TABLE 42.—HOSIERY AND KNIT GOODS:

	New Jersey.	New York.	North Carolina.	Ohio.	Pennsylvania.
1 Number of establishments.....	16	242	24	24	319
2 Character of organization:					
3 Individual.....	11	98	4	8	151
4 Firm and limited partnership.....	2	57	7	8	134
5 Incorporated company.....	3	86	18	8	113
6 Miscellaneous.....		1			1
7 Capital:					
8 Total.....	\$1,973,482	\$30,203,640	\$674,869	\$1,067,987	\$15,743,981
9 Land.....	\$83,000	\$1,194,978	\$16,925	\$40,320	\$721,967
10 Buildings.....	\$256,856	\$3,944,873	\$52,852	\$77,046	\$1,890,387
11 Machinery, tools, and implements.....	\$742,687	\$9,001,637	\$360,420	\$323,953	\$6,599,572
12 Cash and sundries.....	\$890,940	\$16,062,652	\$244,672	\$626,613	\$7,532,055
13 Proprietors and firm members.....	5	230	15	24	307
14 Salaried officials, clerks, etc.:					
15 Total number.....	61	805	64	56	688
16 Total salaries.....	\$78,048	\$980,764	\$46,224	\$55,856	\$638,483
17 Officers of corporations—					
18 Number.....	6	119	18	12	68
19 Salaries.....	\$17,000	\$210,411	\$12,185	\$16,050	\$89,331
20 General superintendents, managers, clerks, etc.—					
21 Total number.....	55	686	46	44	630
22 Total salaries.....	\$56,048	\$714,353	\$34,039	\$40,806	\$549,162
23 Men—					
24 Number.....	54	608	41	34	487
25 Salaries.....	\$55,248	\$676,428	\$32,961	\$37,170	\$491,717
26 Women—					
27 Number.....	1	78	5	10	143
28 Salaries.....	\$800	\$87,925	\$1,078	\$8,136	\$57,455
29 Wage-earners, including pieceworkers, and total wages:					
30 Greatest number employed at any one time during the year.....	2,079	30,852	1,692	1,565	24,063
31 Least number employed at any one time during the year.....	1,544	22,136	1,425	1,311	19,185
32 Average number.....	1,841	26,470	1,495	1,413	21,540
33 Total wages.....	\$446,608	\$8,964,097	\$255,253	\$354,369	\$5,825,783
34 Men, 16 years and over—					
35 Average number.....	602	8,327	317	154	3,725
36 Wages.....	\$187,756	\$3,612,989	\$91,029	\$74,125	\$1,599,766
37 Women, 16 years and over—					
38 Average number.....	1,087	17,219	785	1,229	13,739
39 Wages.....	\$241,974	\$5,180,572	\$123,742	\$275,817	\$3,648,805
40 Children, under 16 years—					
41 Average number.....	152	924	443	30	4,076
42 Wages.....	\$16,878	\$170,536	\$40,482	\$4,927	\$577,212
43 Average number of wage-earners, including pieceworkers, employed during each month:					
44 Men, 16 years and over—					
45 January.....	534	7,641	323	146	3,715
46 February.....	534	8,154	340	151	3,825
47 March.....	536	8,334	348	157	3,869
48 April.....	538	8,429	351	161	3,869
49 May.....	537	8,393	356	161	3,832
50 June.....	538	8,539	287	148	3,696
51 July.....	532	8,437	238	156	3,572
52 August.....	532	8,348	230	158	3,623
53 September.....	514	8,347	235	161	3,651
54 October.....	533	8,700	295	156	3,679
55 November.....	536	8,451	328	150	3,706
56 December.....	571	7,852	329	155	3,658
57 Women, 16 years and over—					
58 January.....	1,052	16,142	719	1,213	13,693
59 February.....	1,061	16,596	736	1,217	13,950
60 March.....	1,106	17,414	804	1,255	14,206
61 April.....	1,045	17,694	802	1,285	14,286
62 May.....	1,063	17,946	799	1,259	14,109
63 June.....	1,078	17,709	681	1,242	13,569
64 July.....	1,066	17,452	676	1,233	12,919
65 August.....	1,067	16,852	699	1,219	13,402
66 September.....	1,038	16,944	706	1,195	13,730
67 October.....	1,123	17,666	716	1,221	13,706
68 November.....	1,143	17,502	719	1,202	13,739
69 December.....	1,164	16,717	713	1,201	13,659
70 Children, under 16 years—					
71 January.....	160	863	451	25	4,173
72 February.....	163	893	458	27	4,160
73 March.....	157	959	461	30	4,238
74 April.....	112	947	461	32	4,271
75 May.....	154	956	463	35	4,265
76 June.....	149	943	431	38	3,963
77 July.....	152	939	430	38	3,835
78 August.....	156	918	424	34	3,897
79 September.....	158	907	432	29	3,966
80 October.....	137	837	436	23	3,964
81 November.....	165	820	434	25	4,100
82 December.....	162	900	434	25	4,085
83 Skilled operatives, average number:					
84 Spinners—					
85 Men, 16 years and over.....	56	892	18	4	67
86 Women, 16 years and over.....		42	18	16	49
87 Children, under 16 years.....		3	18		14
88 Knitters—					
89 Men, 16 years and over.....	164	1,466	62	110	1,032
90 Women, 16 years and over.....	157	836	178	469	5,000
91 Children, under 16 years.....	16	19	88		586
92 Finishers—					
93 Men, 16 years and over.....	35	480	45	80	854
94 Women, 16 years and over.....	320	7,803	95	275	2,539
95 Children, under 16 years.....	48	68	13		302
96 Machinery:					
97 Sets of woolen cards.....	26	674	5	10	31
98 Combing machines, number.....					
99 Of American manufacture.....					
100 Of foreign manufacture.....					
101 Spindles, number.....					
102 Spinning—					
103 Woolen.....	8,408	191,582	2,860	3,920	31,604
104 Worsted.....	8,408	152,622		3,920	16,496
105 Cotton.....		38,404	2,860		14,128

<sup>1</sup>Includes states having less than 3 establishments in order that the operations of individual establishments may not be disclosed. The establishments are distributed as follows: Alabama, 1; Idaho, 1; Iowa, 2; Kansas, 1; Louisiana, 1; Mississippi, 1; Montana, 1; Nebraska, 1; Oregon, 1; Texas 1; West Virginia 2; Missouri, 2.

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Rhode Island.	South Carolina.	Tennessee.	Utah.	Vermont.	Virginia.	Wisconsin.	All other states. 1
16	6	4	5	14	15	27	15
4	3	1	1	3	4	9	5
2	1	1	2	4	3	2	1
9	2	3	2	7	8	16	9
\$2,452,044	\$345,212	\$216,950	\$52,550	\$1,589,785	\$978,575	\$2,558,299	\$523,701
\$145,850	\$4,112	\$4,200	\$4,500	\$21,800	\$26,100	\$50,760	\$48,742
\$804,891	\$43,200	\$37,200	\$3,000	\$92,380	\$61,307	\$222,935	\$101,126
\$598,808	\$200,000	\$102,000	\$11,800	\$485,822	\$282,688	\$674,934	\$211,550
\$1,402,495	\$97,900	\$73,550	\$33,250	\$990,234	\$608,480	\$1,000,070	\$102,274
10	3	4	4	9	4	13	7
65	15	12	18	32	38	125	43
\$87,223	\$13,520	\$15,300	\$5,250	\$42,024	\$36,057	\$150,209	\$38,404
9	3	3	3	5	12	25	10
\$26,050	\$2,950	\$3,400	-----	\$7,044	\$12,100	\$57,050	\$13,700
56	12	9	13	27	26	100	33
\$61,173	\$10,570	\$11,900	\$5,250	\$34,380	\$23,957	\$92,559	\$24,704
51	10	8	8	25	26	82	30
\$58,617	\$9,970	\$11,500	\$2,800	\$33,400	\$23,957	\$85,006	\$24,189
5	2	1	10	2	-----	18	3
\$2,556	\$600	\$400	\$2,460	\$920	-----	\$7,553	\$505
1,850	460	780	126	1,244	2,197	3,093	942
1,345	262	591	69	825	1,802	2,282	782
1,594	859	511	91	1,041	1,845	2,722	852
\$469,193	\$73,872	\$72,980	\$21,599	\$389,667	\$394,871	\$800,495	\$143,288
485	73	113	15	387	601	341	180
\$183,293	\$25,200	\$31,424	\$8,800	\$161,507	\$179,267	\$144,802	\$46,820
1,015	153	228	72	651	988	1,756	545
\$256,743	\$32,792	\$26,460	\$12,574	\$227,842	\$186,013	\$357,777	\$86,842
144	128	170	4	3	256	025	127
\$29,157	\$15,880	\$15,096	\$225	\$318	\$30,691	\$97,856	\$9,626
396	63	99	13	368	585	302	172
448	68	99	13	411	588	312	171
445	75	99	14	397	578	332	170
440	75	105	14	406	689	341	176
432	85	107	16	408	690	336	177
431	55	119	17	384	697	351	180
420	56	119	17	357	648	375	188
438	67	119	16	351	578	380	187
431	71	124	17	353	570	377	187
419	72	124	13	408	560	290	182
471	91	124	16	406	477	361	181
463	99	124	13	375	562	340	182
984	153	138	55	535	977	1,478	525
1,048	153	138	55	643	980	1,566	506
1,028	162	138	50	679	1,004	1,660	507
1,068	170	178	74	697	1,140	1,767	548
1,017	173	213	83	698	1,132	1,752	542
986	142	238	80	653	1,154	1,836	563
945	141	238	98	614	1,005	1,864	544
984	142	238	77	636	909	1,877	542
980	156	303	82	682	920	1,885	585
1,027	158	303	82	686	919	1,886	572
1,037	178	303	65	696	808	1,852	580
1,078	178	303	62	590	924	1,658	567

TABLE 42.—HOSIERY AND KNIT GOODS:

		New Jersey.	New York.	North Carolina.	Ohio.	Pennsylvania.
	Machinery—continued.					
	Spindles, number—continued.					
85	Doubling—					
86	Woolen.....		480			800
87	Worsted.....		76			
88	Cotton.....					180
	Looms on woolen or worsted goods, number.....					133
89	Narrow, under 50 inch-reed space—					
	On woolen goods.....					130
90	Hand—					
	On woolen or worsted goods.....					3
91	Braiders, number.....					128
92	Sewing machines, number.....	382	12,282	191	170	4,612
93	Knitting machines, number.....	1,385	11,666	1,354	1,147	26,120
	Spring-beard needle—					
94	Flat, ribbed.....	24	898		13	52
95	Flat, plain.....		860		5	319
96	Full fashioned, flat, ribbed.....		24			12
97	Full fashioned, flat, plain.....	54	77			173
98	Circular, ribbed.....		274		1	606
99	Circular, plain.....	126	2,501	22	82	1,272
100	Circular, hosiery, automatic.....		74	18		754
101	Lamb, and other variety, hand.....		40		70	66
	Latch needle—					
102	Flat, ribbed.....	8	599	32	61	610
103	Flat, plain.....	1	891	15	62	779
104	Full fashioned, flat, ribbed.....	61	79	11		31
105	Full fashioned, flat, plain.....	1	84			20
106	Circular, ribbed.....	466	3,663	472	272	6,962
107	Circular, plain.....	433	547	104	194	2,613
108	Circular, hosiery, automatic.....	109	246	629	45	10,215
109	Lamb, and other variety, hand.....	52	859	56	392	1,420
	Miscellaneous expenses:					
110	Total.....	\$122,374	\$2,199,029	\$85,920	\$99,411	\$1,884,722
111	Rent of works.....	\$7,148	\$144,387	\$4,803	\$14,707	\$107,905
112	Taxes, not including internal revenue.....	\$10,380	\$94,980	\$3,822	\$3,388	\$26,416
113	Rent of offices, insurance, and all sundry expenses not hitherto included.....	\$103,846	\$1,818,590	\$27,005	\$54,015	\$1,042,198
114	Contract work.....	\$1,000	\$141,072	\$290	\$27,351	\$708,203
	Materials used:					
115	Total cost.....	\$997,110	\$20,218,200	\$504,027	\$807,673	\$10,928,113
	Wool—					
116	Foreign, in condition purchased, pounds.....	88,068	710,834		15,000	582,215
117	Cost.....	\$62,539	\$896,246		\$3,900	\$183,224
118	Domestic, in condition purchased, pounds.....	67,092	4,817,495		125,500	765,699
119	Cost.....	\$15,166	\$1,663,529		\$57,840	\$291,036
120	Foreign and domestic, etc., scoured, pounds.....	183,583	4,803,101		123,750	1,069,994
	Animal hair and fur—					
121	Mohair, pounds.....		626,146		5,053	
122	Cost.....		\$41,076		\$3,877	
123	Buffalo, cow, and other animal hair and fur, pounds.....		30,415			
124	Cost.....		\$2,130			
125	Cotton, bales.....	434	45,937	2,624	100	4,859
126	Pounds.....	217,148	24,337,305	1,800,378	50,000	2,218,423
127	Cost.....	\$19,307	\$1,668,014	\$92,754	\$3,500	\$189,401
	Materials, not made in mill—					
128	Shoddy, pounds.....		2,105,354	20,000	70,000	106,907
129	Cost.....		\$199,127	\$1,400	\$10,000	\$21,065
130	Wool waste and noils, pounds.....	16,229	2,923,552		90,000	487,078
131	Cost.....	\$9,774	\$317,592		\$29,310	\$142,244
132	Camel, alpaca, and vicuna noils, pounds.....		29,224			
133	Cost.....		\$14,212			
134	Mohair noils, pounds.....		100			
135	Cost.....		\$25			
136	Tops, pounds.....	23,723	47,500			11,875
137	Cost.....	\$15,359	\$38,866			\$8,985
	Yarns, not made in mill—					
138	Woolen, pounds.....	43,800	902,234		64,823	409,163
139	Cost.....	\$23,485	\$423,411		\$38,346	\$219,025
140	Worsted, pounds.....	232,157	1,655,842		455,569	1,115,363
141	Cost.....	\$223,580	\$1,221,820		\$112,277	\$561,068
142	Merino, pounds.....	10,000	562,040		202,034	350,011
143	Cost.....	\$8,000	\$232,011		\$54,774	\$92,478
144	Cotton, pounds.....	1,923,684	59,112,590	2,136,604	432,372	38,323,301
145	Cost.....	\$387,413	\$8,517,051	\$393,058	\$98,817	\$7,188,052
146	Silk, pounds.....	3,190	110,660		4,088	18,175
147	Cost.....	\$13,470	\$473,073		\$13,948	\$71,453
148	Spun silk, pounds.....	5,592	81,899		3,550	12,222
149	Cost.....	\$16,592	\$69,271		\$12,402	\$31,711
150	Linen, pounds.....		66,000			
151	Cost.....		\$48,000			
152	Jute, ramie, or other vegetable fiber, pounds.....		39,782			500
153	Cost.....		\$54,109			\$100
154	All other materials which are components of product.....	\$100,251	\$1,659,723	\$3,400	\$3,355	\$575,438
155	Soap, pounds.....	107,069	3,092,438	24,015	68,720	266,371
156	Cost.....	\$4,940	\$99,635	\$631	\$2,639	\$12,707
157	Oil for preparing wool for cards or combs, gallons.....	6,548	173,458		2,600	30,458
158	Cost.....	\$3,170	\$40,927		\$880	\$3,629
159	Chemicals and dyestuffs.....	\$27,102	\$211,687	\$33,219	\$10,683	\$271,662
160	Fuel.....	\$13,712	\$254,801	\$12,538	\$7,316	\$124,736
161	Rent of power and heat.....	\$1,800	\$38,657	\$1,229	\$2,982	\$52,607
162	Mill supplies.....	\$3,080	\$94,630	\$6,810	\$2,015	\$48,300
163	All other materials.....	\$45,852	\$1,812,802	\$12,680	\$21,819	\$477,665
164	Freight.....	\$3,068	\$130,165	\$6,303	\$11,958	\$60,832
165	Cotton yarn made in mill for use therein, pounds.....		14,497,904	968,000		328,937
	Products:					
166	Total value.....	\$1,748,148	\$35,886,048	\$1,028,150	\$1,576,285	\$21,896,063
	Partly manufactured products for sale—					
167	Woolen yarn, all wool, pounds.....		7,027			72,000
168	Value.....		\$2,307			\$36,000
169	Worsted yarn and tops, pounds.....		200			
170	Value.....		\$200			
171	Woolen or worsted yarn, union or merino, cotton mixed, pounds.....		2,000			
172	Value.....		\$700			
173	Cotton yarn, pounds.....		211,000			327,612
174	Value.....		\$33,200			\$52,018

[illegible]

<sup>1</sup> Includes establishments distributed as follows: Alabama, 1; Idaho, 1; Iowa, 2; Kansas, 1; Louisiana, 1; Mississippi, 1; Montana, 1; Nebraska, 1; Oregon, 1; Texas, 1; West Virginia, 2; Missouri, 2.

TABLE 42.—HOSIERY AND KNIT GOODS:

	New Jersey.	New York.	North Carolina.	Ohio.	Pennsylvania.
Products:					
Total value—Continued.					
Partly manufactured products for sale—Continued.					
Waste, pounds.....					105,212
Value.....					\$2,652
Hosiery and knit goods—					
Hose and half hose—					
Woolen—					
Half hose, dozens.....	10,000	11,628		63,381	76,460
Value.....	\$20,000	\$29,233		\$99,095	\$101,075
Hose, dozens.....	25,825	54,606		25,726	180,740
Value.....	\$95,500	\$136,744		\$37,227	\$275,087
Merino or mixed—					
Half hose, dozens.....	765	11,590		67,700	103,487
Value.....	\$1,428	\$18,500		\$78,000	\$152,732
Hose, dozens.....		4,000		37,300	57,131
Value.....		\$7,000		\$50,000	\$103,988
Cotton—					
Half hose, dozens.....	63,641	83,754	343,337		6,994,945
Value.....	\$40,890	\$45,754	\$331,043		\$4,810,822
Hose, dozens.....	691,195	44,494	726,094	39,609	7,863,561
Value.....	\$596,537	\$86,108	\$446,262	\$48,079	\$7,655,360
Silk hose, dozens.....	1,000	200			6,000
Value.....	\$10,000	\$4,800			\$90,000
Shirts and drawers—					
Merino or mixed, dozens.....	85,273	1,779,339		9,053	114,183
Value.....	\$540,200	\$8,394,455		\$43,018	\$947,285
All wool, dozens.....	8,829	780,763		13,467	78,084
Value.....	\$93,060	\$2,677,994		\$101,638	\$368,223
All cotton, dozens.....	95,035	6,630,642	112,875	16,806	2,670,341
Value.....	\$190,066	\$17,006,721	\$196,220	\$45,658	\$3,456,695
Silk or silk mixed, dozens.....	294	23,785		239	12,449
Value.....	\$5,919	\$202,124		\$2,123	\$74,978
Combination suits—					
Merino or mixed, dozens.....	83	54,153		5,185	29,366
Value.....	\$1,185	\$378,258		\$61,088	\$208,844
All wool, dozens.....	66	3,044		1,173	1,115
Value.....	\$1,456	\$45,783		\$26,705	\$15,120
All cotton, dozens.....		288,079	5,000	11,517	374,057
Value.....		\$904,154	\$9,375	\$73,052	\$702,523
Silk or silk mixed, dozens.....		10,271		842	
Value.....		\$36,327		\$6,065	
Leggins and gaiters, dozens.....		39,813		50	9,820
Value.....		\$104,492		\$200	\$33,124
Gloves and mittens, dozens.....		507,720		278,940	82,103
Value.....		\$1,570,406		\$333,258	\$167,545
Hoods, scarfs, nubbies, etc., dozens.....		171,000		122,102	42,700
Value.....		\$593,527		\$304,449	\$127,785
Cardigan jackets, sweaters, athletic goods, fancy jackets, etc., dozens.....	338	451,262			86,191
Value.....	\$7,130	\$2,564,713			\$586,707
Shawls, dozens.....	35,000	200		32,960	30,000
Value.....	\$93,000	\$2,000		\$141,380	\$96,000
Fancy knit goods, wristers, etc., dozens.....	11,000	67,670		60,000	110,630
Value.....	\$54,000	\$271,612		\$125,000	\$454,832
Boot and shoe linings, square yards.....					3,866,890
Value.....					\$1,043,799
Astrakhans, square yards.....	17,182	4,500			408,807
Value.....	\$11,085	\$1,500			\$213,053
Jersey cloth and stockinette, square yards.....	13,744	1,563,961			178,199
Value.....	\$3,044	\$228,729			\$47,101
All other products.....	\$47,168	\$570,523	\$40,250	\$250	\$374,976
Amount received for contract work.....		\$25,124			\$46,464
Comparison of products:					
Number of establishments reporting for both years.....	13	187	12	20	236
Value for census year.....	\$1,518,086	\$30,824,017	\$835,396	\$1,439,716	\$18,982,587
Value for preceding business year.....	\$1,349,622	\$27,304,179	\$715,450	\$1,260,457	\$16,064,664
Power:					
Number of establishments reporting.....	15	218	24	19	301
Total horsepower.....	939	21,797	1,755	550	9,612
Owned—					
Engines—					
Steam, number.....	14	172	17	14	236
Horsepower.....	736	13,868	663	460	8,246
Gas or gasoline, number.....	2	6		1	9
Horsepower.....	12	36		6	75
Waterwheels, number.....	2	95	6	1	6
Horsepower.....	150	7,069	1,015	35	114
Electric motors, number.....	6	23			11
Horsepower.....	26	246	19		134
Other power, number.....					
Horsepower.....					
Rented horsepower—					
Electric.....	2	261	15	44	560
Other kind.....	13	317	43	5	483
Furnished to other establishments, horsepower.....	3	18			230
Establishments classified by number of persons employed, not including proprietors and firm members:					
Total number of establishments.....	16	242	24	24	319
No employees.....					1
Under 5.....	2	10		2	13
5 to 20.....	5	40		5	64
21 to 50.....		33	4	5	113
51 to 100.....	2	44		6	67
101 to 250.....	5	82	1	5	82
251 to 500.....		28			14
501 to 1,000.....	2	4			5
Over 1,000.....		1			

WOOL.

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## SUMMARY BY STATES, 1900—Continued.

Rhode Island.	South Carolina.	Tennessee.	Utah.	Vermont.	Virginia.	Wisconsin.	All other states. <sup>1</sup>	
74,129							2,108	175
\$16,657							\$609	170
21,111			1,900	5,389	1,500	117,788	5,315	177
\$43,722			\$9,122	\$16,616	\$2,100	\$837,782	\$18,789	178
181,018		20,000	4,250	8,722	1,200	6,527	2,960	179
\$357,501		\$57,000	\$12,790	\$6,141	\$1,800	\$83,030	\$9,805	180
80,000				26,881	1,800	128,371	146,480	181
\$51,000				\$49,405	\$2,100	\$204,169	\$202,575	182
40,000				6,202		57,616	5,115	183
\$68,000				\$10,283		\$108,953	\$4,984	184
4,301	308,500	360,000	500	25,661	56,000	91,028	251,440	185
\$3,501	\$204,750	\$208,000	\$820	\$24,702	\$40,350	\$87,813	\$187,045	186
45,837	420,250	153,500	1,600		299,800	256,586	204,700	187
\$81,997	\$182,687	\$135,150	\$4,350		\$249,850	\$293,350	\$107,318	188
			50					189
			\$420					190
28,980			80	95,151	22,400	7,785		191
\$166,175			\$980	\$548,409	\$46,821	\$57,697		192
2,000			100	82,960		8,305		193
\$21,000			\$2,710	\$269,940		\$31,623	25	194
102,506			60	181,898	580,744	11,040	\$300	195
\$259,910			\$918	\$497,206	\$1,108,780	\$24,957		196
					1,000	130		197
					\$1,500	\$11,760		198
8,800			510			1,422		199
\$10,440			\$11,370			\$31,120		200
			350			1,060	10	201
8,000			\$8,100			\$22,668	\$200	202
\$18,000			700	17,500	40,100	5,180		203
			\$10,410	\$96,617	\$48,850	\$29,876		204
			82			216		205
			\$1,140			\$28,900		206
			14			11,810		207
11,209			\$94			\$66,889	2	208
\$19,090			160			350,550	\$16	209
			\$407			\$324,768	8	210
			103			5,744	\$22	211
			\$891			\$23,490		212
			245			38,186	60	213
			\$8,570			\$121,805	\$1,000	214
			46			9,000		215
			\$479			\$24,600		216
			30			1,376		217
			\$836			\$2,964		218
5,151,255				1,248,000				219
\$826,851				\$280,000				220
98,990				\$46,416				221
\$30,775								222
\$84,269								223
\$493,644								224
\$215,484								225
	\$4,800		\$750			\$117,606	\$2,500	226
			\$700			\$1,260	\$36,742	227
11	4	3	3	12	11	23	18	228
\$2,509,694	\$328,487	\$270,500	\$40,275	\$1,518,811	\$1,362,806	\$2,422,597	\$584,192	229
\$2,364,270	\$304,000	\$225,000	\$37,615	\$1,484,059	\$1,307,528	\$2,185,800	\$583,228	230
								231
13	6	4	1	14	15	19	13	232
1,281	501	212	5	1,213	1,203	1,169	564	233
								234
14	8	3		11	16	17	18	235
999	456	125		683	1,170	1,107	549	236
						1		237
6	2	2		14	1	4		238
180	20	37		526	25	25		239
								240
								241
102	25	25	5	4	8	20	5	242
15						13	10	243
						3		244
15	6	4	5	14	15	27		245
2							15	246
1			2			1		247
5	1		2	2		8	4	248
1	4	1	1	4		6	4	249
3	1			8		1	2	250
2		2		4		7	3	251
1				1		3	1	252
						1		253
								254

<sup>1</sup>Includes establishments distributed as follows: Alabama, 1; Idaho, 1; Iowa, 2; Kansas, 1; Louisiana, 1; Mississippi, 1; Montana, 1; Nebraska, 1; Oregon, 1; Texas, 1; West Virginia 2; Missouri, 2.



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# SILK MANUFACTURES.

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# SILK MANUFACTURES.

By FRANKLIN ALLEN, *Expert Special Agent.*

Silk manufacture in the United States has shown a marked development since the census of 1890. It has taken its place as one of the leading industries of the nation and along several lines has established its independence of foreign competition. The causes for these favorable conditions were manifold. Chief among them were the enterprise of the manufacturer, the

perfection and reliability of his machinery, and the wise restriction of importation during the less prosperous period of the development of the industry.

Table 1 presents a comparative summary of the industry as returned at each census from 1850 to 1900, inclusive, with the percentages of increase for each decade.

TABLE 1.—COMPARATIVE SUMMARY, 1850 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.						PER CENT OF INCREASE.				
	1900	1890	1880	1870	1860	1850	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870	1850 to 1860
Number of establishments.....	488	472	382	86	189	67	2.3	23.6	344.2	138.1	107.5
Capital.....	\$81,082,201	\$51,007,537	\$19,125,300	\$6,231,130	\$2,926,980	\$678,300	59.0	168.7	206.9	112.9	331.5
Salaries of officials, clerks, etc., number.....	2,657	2,531	(3)	(3)	(3)	(3)	73.5				
Salaries.....	\$3,134,352	\$1,917,877	(3)	(3)	(3)	(3)	63.4				
Wage-earners, average number.....	65,416	49,382	31,337	6,649	5,435	1,723	32.5	57.6	371.8	22.3	215.4
Total wages.....	\$20,982,194	\$17,762,441	\$9,146,705	\$1,912,286	\$1,050,224	\$297,416	18.1	94.2	870.9	84.9	253.1
Men, 16 years and over.....	24,206	17,602	9,375	1,734	1,585	503	37.5	87.8	440.7	9.4	215.1
Wages.....	\$10,699,483	\$9,349,531	(3)	(3)	(3)	(3)	14.4				
Women, 16 years and over.....	34,797	28,914	16,396	3,529	3,850	1,220	20.3	76.3	304.6	18.3	215.6
Wages.....	\$9,377,696	\$7,970,065	(3)	(3)	(3)	(3)	17.7				
Children, under 16 years.....	6,413	2,866	5,566	1,386	(3)	(3)	123.8	148.5	301.6		
Wages.....	\$905,015	\$442,845	(3)	(3)	(3)	(3)	104.4				
Miscellaneous expenses.....	\$10,264,208	\$4,259,623	(4)	(4)	(4)	(4)	141.0				
Cost of materials used.....	\$62,406,665	\$51,004,425	\$22,467,701	\$7,817,559	\$3,901,777	\$1,093,860	22.4	127.0	187.4	100.4	256.7
Value of products, including amount received for contract work.....	\$107,256,258	\$87,298,454	\$41,033,045	\$12,210,662	\$6,607,771	\$1,809,476	22.9	112.8	236.0	84.8	265.2
Raw silk used, pounds.....	9,760,770	6,376,881	2,690,482	684,488	462,965	(4)	53.1	137.0	293.1	47.8	

<sup>1</sup> Decrease.

<sup>2</sup> Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 23.) <sup>3</sup> Not reported separately. <sup>4</sup> Not reported.

Table 1 shows that in the items of capital, wages, materials, and products the industry has maintained a constant increase from 1850 to 1900. In considering such increases the differences in the method and scope of the inquiries at the several censuses should be taken into account. The reports on silk manufacture at prior censuses included establishments engaged in the manufacture of hosiery and knit goods, braids and trimmings, and other small goods in which silk was the fiber of chief value, but in which cotton or wool or both may also have been used. At the present census the statistics of hosiery and knit goods appear in a separate report, and only such braids and trimmings products and other small goods in the manufacture of which silk is the material of predominant value are included in this report. To what extent these differences may have affected the percentages of increase between 1890 and 1900 can not be accurately determined.

In the principal items of inquiry the absolute increase shown by the statistics for 1900, as compared with those for 1890, is less than it was during the preceding decade and, with the exception of capital invested, less than it was in the decade 1870 to 1880. A noteworthy and striking fact shown in the foregoing table is that the value of the products in 1900 was nearly sixty times as great as it was in 1850.

Table 2 presents the statistics of establishments man-

ufacturing a product exceeding \$500 in value and those reporting a product of less than \$500; the latter were not reported at previous censuses and therefore are omitted from the other tables and their use confined to Table 2.

In addition to the 488 active establishments in the United States during the census year, with a capital of \$81,097,276, shown in Table 2, there were 22 idle establishments, with a capital of \$427,491, distributed by states as follows:

STATES.	Number of idle establishments.	Capital.	SPINDLES.			LOOMS.		
			Total.	Throwing.	All other.	Total.	Broad.	Rib-bon.
Total .....	22	\$427,491	13,534	4,050	9,484	211	188	23
Connecticut .....	1	20,300						
Massachusetts .....	2	19,000						
New Jersey .....	11	57,810	1,354	250	1,104	185	173	12
New York .....	1	95,000						
Pennsylvania .....	7	235,381	12,180	3,800	8,380	26	10	16

Adding the statistics of active establishments to those shown in the foregoing statement gives a total of 510 active and idle establishments in the United States, with a capital of \$81,524,767; total number of throwing spindles, 1,053,674; accessory spindles, 952,122; broad looms, 37,174; and narrow fabric looms, 7,469.

TABLE 2. SUMMARY OF ESTABLISHMENTS WITH A PRODUCT EXCEEDING \$500 AND THOSE WITH A PRODUCT OF LESS THAN \$500.

CLASSES.	Number of establishments.	Capital.	Proprietors and firm members.	WAGE-EARNERS.		Miscellaneous expenses.	COST OF MATERIALS USED.		
				Average number.	Total wages.		Total.	Textile.	All other.
Total.....	488	\$81,097,276	482	65,420	\$20,982,680	\$10,264,444	\$62,406,800	\$58,093,267	\$4,313,533
Establishments with a product exceeding \$500....	453	81,082,201	477	65,416	20,982,194	10,264,208	62,406,665	58,093,249	4,313,416
Establishments with a product of less than \$500....	5	15,075	5	4	486	236	136	18	117

  

CLASSES.	Raw silk thrown into organzine or tram, on commission (pounds).	Value of products, including amounts received for contract work.	NUMBER OF SPINDLES.			NUMBER OF LOOMS.		
			Total.	Throwing.	All other.	Total.	Broad.	Ribbon.
Total.....	4,300,059	\$107,257,376	1,992,262	1,049,624	942,638	44,432	36,991	7,441
Establishments with a product exceeding \$500....	4,298,659	107,256,258	1,987,404	1,045,304	942,100	44,430	36,989	7,441
Establishments with a product of less than \$500....	1,400	1,118	4,858	4,320	538	2	2	.....

## MATERIALS AND PRODUCTS TWICE INCLUDED.

Table 3 is a comparative summary by states for 1890 and 1900 of the cost of materials and value of products as reported, the cost and value, respectively, of the materials and products twice included, and the cost of materials and value of products exclusive of duplications.

The amount shown in Table 3 as the value of products as reported, \$107,256,258, is in excess of the merchant-

able product of the silk industry in 1900. The value of finished goods is \$92,451,212. The tabulation has been made in the form herein presented in order to show statistics comparable with those of the censuses of 1880 and 1890, which included in their totals thrown silks and other materials which, while completed products to the throwster, are materials to the weaver and the trimmings manufacturer. They were designated in subsidiary tables of those censuses as "materials twice

TABLE 3.—ELIMINATION OF MATERIALS AND PRODUCTS TWICE INCLUDED: 1890 AND 1900.

STATES.	Year.	MATERIALS.			PRODUCTS.		
		Cost of materials as reported.	Cost of materials twice included.	Cost of materials exclusive of duplications.	Value of products as reported.	Value of products twice included.	Value of products exclusive of duplications.
United States.....	1900	\$62,406,665	\$11,840,267	\$50,566,398	\$107,256,258	\$14,805,046	\$92,451,212
	1890	51,004,425	15,587,520	35,416,905	87,293,454	18,143,855	69,154,609
California.....	1900	146,219	8,420	137,799	255,902	9,300	246,602
	1890	146,406	8,500	142,906	271,912	5,600	266,312
Connecticut.....	1900	7,198,008	557,718	6,640,295	12,378,981	1,041,714	11,337,267
	1890	6,201,876	889,766	5,312,120	9,788,951	1,665,390	8,123,561
Illinois.....	1900	187,514	51,042	136,472	421,088	29,893	391,195
	1890	311,855	.....	314,855	785,845	.....	785,845
Maryland.....	1900	34,305	.....	34,305	100,361	.....	100,361
	1890	3,823,963	354,697	3,469,266	5,957,532	200,730	5,656,802
Massachusetts.....	1900	3,251,893	746,175	2,505,718	5,557,569	945,610	4,611,959
	1890	21,631,118	5,704,322	15,926,796	39,966,662	2,268,720	37,697,942
New Jersey.....	1900	17,908,883	5,205,501	12,703,382	30,760,371	5,854,889	25,405,482
	1890	6,570,037	1,144,978	5,425,064	12,706,246	751,034	11,955,212
New York.....	1900	10,174,818	1,318,742	8,856,076	19,417,796	1,681,481	17,736,315
	1890	99,403	.....	99,403	135,854	64,461	70,393
North Carolina.....	1900	.....	.....	.....	.....	.....	.....
	1890	13,983	.....	13,983	83,927	.....	83,927
Pennsylvania.....	1900	19,884,869	8,979,831	15,905,038	31,072,926	9,859,279	21,213,647
	1890	12,094,389	7,017,604	5,076,785	19,357,546	7,953,823	11,404,223
Rhode Island.....	1900	818,561	37,730	780,831	1,311,333	22,204	1,289,089
	1890	149,763	68,242	81,521	229,062	94,062	135,000
Virginia.....	1900	720,525	.....	720,525	981,680	940,776	40,904
	1890	1,326,448	1,539	1,324,909	2,068,554	26,845	2,041,709
All other states.....	1900	713,254	288,000	425,254	905,114	444,000	561,114

<sup>1</sup>Included in "all other states."

<sup>2</sup>Includes establishments distributed as follows: Delaware, 2; Maine, 1; Maryland, 2; Michigan, 2; New Hampshire, 2; Utah, 2.

<sup>3</sup>Includes establishments distributed as follows: Maine, 1; Michigan, 1; Missouri, 1; North Carolina, 1; Virginia, 1.

included," but in order to avoid the erroneous impression which might be conveyed by the figures without an explanation, and make clear the reasons for this duplication and consequent elimination, the conditions under which organzine and tram are manufactured are stated as follows:

1. Raw silk is purchased by a silk manufacturer who has the same thrown into organzine and tram in a plant owned by him, but located elsewhere than in proximity to his factory, possibly in another state. In this case the raw silk and the organzine and tram are reported as material and product, respectively, by the throwing plant, and the quantity and value of the organzine and tram thus thrown is also reported as material by the manufacturer at his weaving plant, and duplication occurs.

2. Raw silk is purchased by a silk manufacturer and thrown into organzine and tram in larger quantities than his own factory consumption requires, and this excess is reported in the products as organzine and tram for sale to other silk manufacturers. In this case the organzine and tram are also reported as material by the purchasing silk manufacturers, and duplication occurs.

3. Raw silk is purchased by a throwster on his own account and thrown into organzine and tram for sale to silk manufacturers. In this case the raw silk and organzine and tram are reported by the throwster as material and product, respectively, of his mill, and also as material (organzine and tram) by the purchasing silk manufacturer, and duplication occurs.

4. Raw silk is purchased by a silk manufacturer, who has the same thrown into organzine and tram in his silk factory or in a plant owned by him in close proximity thereto. In this case the raw silk is reported as material, and the quantity and value of the organzine and tram is not shown, the conversion of the raw silk thereto being only one of the several stages of the manufacturing process for the finished product, and no duplication occurs.

5. Raw silk is purchased by a silk manufacturer, who has the same thrown, on contract, at a throwing mill not owned or operated by himself. In this case the cost of the raw silk is not reported by the throwster, but only by the manufacturer in the report for his silk factory, and no duplication occurs. (The quantity of raw silk thus thrown by commission throwsters was 4,298,659 pounds, 2,331,456 pounds being thrown into organzine and 1,967,203 pounds into tram.)

Large quantities of spun silk are imported and a very considerable quantity is also manufactured in the United States. The spun silk manufactured in the United States is reported under material as silk waste, and the manufactured product as spun silk by the mill producing the same for sale, and when purchased and used by a silk manufacturer as material is necessarily duplicated. The amount of this duplication can not be more

accurately determined than by taking the amount thus reported "for sale" and deducting its value from materials and products alike.

A considerable quantity of manufactured floss and fringe silk is also used by silk trimmings manufacturers, not the product of their own factories, which is properly charged as materials. A duplication to that extent occurs and has therefore been eliminated by deducting its cost from materials and products alike.

Briefly, the elimination of "materials and products twice included" has been accomplished as follows:

1. The cost and value of organzine and tram are deducted as reported, under both "materials" and "products."

2. The value of spun silk reported as a product is deducted from both materials and products.

3. The cost of fringe and floss reported as material is deducted from both materials and products.

4. The amount received for contract work, in all cases, is deducted from the value of the products.

The results obtained are termed in Table 3 "cost of materials, exclusive of duplications," and "value of products, exclusive of duplications." The above method has been followed for the purpose of presenting results comparable with those published in reports of silk manufacture at former censuses. The results as presented in Table 3 will differ from the net value of products presented in the general tables of manufactures. The true "net value" is obtained by deducting from the gross value of products the total amount reported as the cost of materials used in partially manufactured form.

In Table 3, \$11,840,267 is estimated to represent the cost of "materials twice included" and \$14,805,046 to represent the value of "products twice included" in 1900. At the census of 1890 the corresponding allowances were \$15,537,520 and \$18,143,855 for materials and products, respectively. The following statement shows the items in detail, for the United States, of materials and products twice included at the present census:

CLASSES.	MATERIALS.		PRODUCTS.	
	Pounds.	Value.	Pounds.	Value.
Organzine and tram ...	2,338,464	\$10,539,632	12,468,387	\$11,167,191
Fringe and floss, bought as such and used in manufacture .....	67,934	274,408	67,934	274,408
Spun silk made for sale. ....	437,469	1,026,227	437,469	1,026,227
Amount received for contract work .....				2,337,220
Total .....	2,843,907	11,840,267	2,973,830	14,805,046

<sup>1</sup> Organzine and tram "made for sale."

It should be noted that in many instances the products of partial manufacture reported in one state go to some other state to be completed. Hence, in some cases the gross product of a state more nearly represents the

industry in that state than would its finished products. For instance, the value of the gross product of Pennsylvania, amounting to \$31,072,926, is much nearer the total value of its manufactures of silk than the sum of \$21,713,647, the net value of its products, because a considerable portion of the thrown silk in the state went to other states to be woven into finished products. The relative figures of the number of looms and spindles in Pennsylvania and New Jersey are instructive on this point, the fact being that a considerable number of "throwing" plants in Pennsylvania are operated for account of weaving plants in New Jersey, as explained elsewhere in this report. Thus, it appears that there were 17,641 broad power looms and 2,916 ribbon power looms reported in New Jersey as against 11,135 and 1,785, respectively, in Pennsylvania, while the number of throwing spindles was 275,516 in the former state and 611,670 in the latter.

#### IMPORTS AND CONSUMPTION OF SILK AND SILK GOODS.

Silk factories depend entirely upon imports for their raw silk material. The quantity and value of the imports, raw silk, spun silk, raw silk waste, and manufactured silk goods for 1850, 1860, 1870, 1880, and each fiscal year between 1880 and 1900, inclusive, together with the value of silk of domestic manufacture at each census from 1850 to 1900, inclusive, are given in Table 4.

Table 4 shows the silk industry of the United States in several of its more important aspects. As the

import values of manufactured silk goods are foreign invoice values, an average of about 70 per cent should be added for freight, revenue duty, importers' profits, and occasional advances on imports, to represent cost to consumers. It should be stated in this connection that the figures of import values of manufactured goods at the several periods include the value of sundry articles, of which silk is the chief or only component material, such as silk caps, bonnets, and hats, silk wearing apparel, umbrellas and parasols of silk, and silk buttons.

The value of the domestic manufacture in the last six decennial census periods, when added to the value of foreign manufactured goods imported, presents in the most graphic way the volume of the consumption of silk goods in the United States. This consumption is shown by the table to be steadily increasing.

In 1850 there were 67 establishments reported as engaged in the manufacture of silk goods. Their total product was valued at \$1,809,476, an average of \$27,007 for each establishment. In 1900 the establishments had increased in number to 483 and the value of the products to \$107,256,258, an average product of \$222,063 for each establishment. The imports of raw silk in 1850 amounted to 120,010 pounds, valued at \$401,385, and it is probable that the total amount was consumed in the silk mills. The imports of raw silk for 1900 amounted to 11,259,310 pounds, valued at \$44,549,672, exceeding those for any prior fiscal year of the Government.

TABLE 4.—COMPARATIVE SUMMARY OF IMPORTED SILK MATERIALS, AND OF IMPORTED AND DOMESTIC MANUFACTURED SILK GOODS, 1850 TO 1900.<sup>1</sup>

FISCAL YEAR ENDING JUNE 30—	IMPORTED SILK MATERIALS.							VALUE OF MANUFACTURED SILK GOODS.	
	Total cost.	Raw silk.		Spun silk.		Raw silk waste, including cocoons and noils.		Imported. <sup>2</sup>	Domestic.
		Pounds.	Cost.	Pounds.	Cost.	Pounds.	Cost.		
1850.....	\$401,385	120,010	\$401,385	(1)	(4)	.....	.....	\$17,694,658	\$1,809,476
1860.....	1,340,676	297,877	1,340,676	(1)	(4)	.....	.....	32,961,120	6,607,771
1870.....	3,055,626	588,589	3,017,958	7,521	\$37,668	.....	.....	24,219,981	12,210,662
1880.....	13,385,184	2,562,236	12,024,699	37,239	111,990	.....	.....	31,348,948	41,033,045
1881.....	11,509,008	2,550,103	10,888,264	19,325	60,830	240,310	\$1,248,436	32,616,396	.....
1882.....	13,610,072	2,879,402	12,890,392	14,726	47,296	941,867	672,384	38,280,955	.....
1883.....	15,269,984	3,258,370	14,043,340	43,812	126,832	1,477,736	1,099,812	33,180,280	.....
1884.....	13,427,851	3,222,546	12,481,496	91,750	189,722	1,062,942	756,653	37,840,852	.....
1885.....	13,112,641	3,424,076	12,421,789	78,890	226,412	884,882	464,490	27,880,386	.....
1886.....	18,696,578	4,754,626	17,232,505	178,383	442,310	2,063,434	1,021,703	27,613,645	.....
1887.....	20,079,384	4,599,574	18,687,245	172,617	441,299	1,428,517	950,840	30,822,978	.....
1888.....	20,509,092	5,173,340	19,151,208	197,139	578,950	1,196,482	778,984	32,863,678	.....
1889.....	19,990,956	5,329,646	18,544,025	274,362	659,045	1,315,478	737,885	34,297,684	.....
1890.....	25,209,175	6,943,300	23,285,099	411,621	883,644	1,567,080	1,040,432	37,303,143	87,298,454
1891.....	20,897,502	4,917,688	17,994,654	886,706	1,821,421	1,348,941	1,081,427	35,478,966	.....
1892.....	26,152,709	7,521,342	24,321,494	489,652	1,093,384	1,312,707	737,831	30,348,796	.....
1893.....	31,175,837	7,422,436	29,055,557	758,502	1,338,851	1,075,047	781,429	36,581,097	.....
1894.....	16,953,572	4,956,875	15,627,822	437,428	719,390	945,610	606,360	28,441,189	.....
1895.....	23,865,675	7,974,310	22,029,068	843,647	1,239,619	1,341,650	590,983	29,789,529	.....
1896.....	27,782,032	8,000,621	26,246,902	782,796	998,604	1,363,366	516,926	25,629,128	.....
1897.....	20,001,899	6,513,612	18,496,944	801,336	1,083,616	1,479,832	421,399	25,433,477	.....
1898.....	33,237,833	10,815,182	31,446,800	956,974	1,177,817	1,772,789	663,266	21,457,249	.....
1899.....	34,442,215	9,691,145	31,827,061	1,703,794	1,962,588	1,559,238	652,566	23,063,916	.....
1900.....	48,884,987	11,259,310	44,549,672	2,386,947	3,655,227	1,814,405	780,088	26,809,534	107,256,258

<sup>1</sup> Figures for imported goods, both raw and manufactured, derived from reports of the United States Treasury Department.

<sup>2</sup> Not including spun silk.

<sup>3</sup> Estimated from current prices, only the value being on record.

<sup>4</sup> Not separately reported.

During the fiscal years 1898, 1899, and 1900 there was imported an annual average of 10,421,872 pounds of raw silk, valued at \$35,941,178. In the census year 1900, as shown by Table 23, there were consumed in the manufacture of silk goods and silk braids and trimmings 9,760,770 pounds of raw silk, costing \$40,721,877. Making allowance for the amount carried over as raw material from year to year, and the considerable quantity used by the wool and cotton textile industries, the consumption of raw silk as obtained for this report agrees closely with the quantities of the imports as reported by the Treasury Department.

During the year 1880 the manufactured silk goods of all varieties imported into the United States were valued at \$31,348,948 (foreign value). The gross value of manufactured silk products for the United States for that year was \$41,033,045. In 1890 the value of the imports of silk manufactures was \$37,363,143, while the gross value of the domestic product was \$87,298,454. In 1900 these values were \$26,803,549 and \$107,256,258, respectively.

In 1860 the silk goods made in the United States as compared with the entire consumption was only 13 per cent. The percentage rose to 38 in 1880,<sup>1</sup> to 55 in 1890,<sup>2</sup> and to 70 in 1900. In broad silk fabrics the domestic production in 1900 was 67.3 per cent of the total estimated consumption of such goods. America now produces 85 per cent of the annual consumption of silk ribbons, the value of imported ribbons representing only 15 per cent. The classes of goods now principally imported from Europe are high novelties, handmade silk velvets, and handmade silk laces which are not as yet made to any appreciable extent here, but, without doubt, will be made in due time. From Japan we are also receiving Habutai and Kaiki silks which, by reason of their extreme lightness in weight, have been in considerable demand in the American markets. American manufacturers expect, however, that international trade returns will show a considerably diminishing percentage of this class of goods in the next few years. The census tables show a production of 8,970,933 yards of velvets and plushes made in the United States by power-loom weaving in the census year. The value of this product is \$4,959,971, which is 55.5 per cent of the annual consumption. The annual import of foreign manufactured velvets and plushes during the census year was \$2,335,576, foreign invoice value, and allowing 70 per cent additional for revenue duties, freight, insurance, and importers' profits, we find the approximate value to the consumers to be \$3,970,479. The present relative position of the silk industry in the United States in the manufacture of broad silks, velvets and plushes, and ribbons, to the consumption of such silk goods annually, is shown by the following statement:

	TOTAL.		BROAD SILKS. <sup>1</sup>	
	Value.	Per cent.	Value.	Per cent.
Domestic production .....	\$75,579,966	70.0	\$52,152,816	67.3
Imports <sup>2</sup> .....	32,439,342	30.0	25,379,055	32.7
Consumption .....	108,019,308	100.0	77,531,871	100.0

  

	VELVETS AND PLUSHES.		RIBBONS.	
	Value.	Per cent.	Value.	Per cent.
Domestic production .....	\$4,959,971	55.5	\$18,467,179	85.7
Imports <sup>2</sup> .....	3,970,479	44.5	3,089,808	14.3
Consumption .....	8,930,450	100.0	21,556,987	100.0

<sup>1</sup> Does not include production of tapestry and upholstery silks, value \$1,000,835.

<sup>2</sup> Selling value to consumer by adding to invoice value 70 per cent for revenue duties, freight, insurance, and importers' profits.

In the above statement no account is taken of manufactured silk goods exported, such exports being inconsiderable. The domestic production of sewing silks and machine twist, 1,465,575 pounds, valued at \$9,274,800, practically represents the entire American consumption, there being no importations of any consequence.

#### MATERIALS AND PRODUCTS, 1890 AND 1900.

The growth of the silk manufacture during the last half of the century has been in keeping with the growth of other industries, and the returns of the Twelfth Census indicate the continued prosperity of the industry. The increase during the past ten years in the quantity and total cost of the different materials used and in the value of goods manufactured is shown in Table 5.

TABLE 5.—COMPARATIVE SUMMARY OF MATERIALS AND PRODUCTS: 1890 AND 1900.

	1900	1890	Per cent of increase.
Number of establishments .....	483	472	2.8
Materials used:			
Total cost .....	\$62,406,665	\$51,004,426	22.4
Raw silk .....	9,760,770 pounds..	6,376,881	53.1
Waste silk, cocoons, and noils .....	\$40,721,877 cost	\$26,087,871	56.1
Organzine and tram .....	1,667,195 pounds..	1,857,618	22.8
Spun silk .....	\$734,539 cost	\$1,100,608	33.6
Other silk materials .....	2,338,464 pounds..	3,305,372	29.3
Yarns, other than silk .....	\$10,530,632 cost	\$16,518,979	36.2
Fuel and rent of power and heat .....	1,550,291 pounds..	( <sup>2</sup> )	
All other materials, including mill supplies and freight .....	\$3,406,059 cost	744,223	118.3
Products:			
Total value .....	\$284,788	\$2,638,242	39.9
Organzine and tram made for sale .....	7,116,728 pounds..	5,624,960	26.5
Spun silk yarn made for sale .....	\$2,406,354 cost	\$2,327,684	3.4
Machine twist and sewing, knitting, embroidery, fringe, floss, and wash silks .....	\$884,002	\$485,516	40.9
Dress goods, figured and plain, and other silk broad goods, except velvets and plushes .....	\$3,629,414	\$1,840,025	97.2
Velvets and plushes .....	\$107,256,258	\$87,298,454	22.9
Tapestries, curtains, and other upholstery broad goods .....	\$11,167,191	\$16,880,306	33.8
Ribbons and laces .....	\$1,028,227	\$1,263,489	18.8
Braids and bindings .....	\$10,246,190	\$8,917,844	14.9
Dress, cloak, millinery, and military trimmings .....	\$52,152,816	\$22,955,750	127.2
All other products .....	\$4,959,971	\$3,141,026	57.9
Received for contract work .....	\$1,009,835	\$3,712,332	172.8
	\$19,270,283	\$17,348,197	11.1
	\$1,522,565	\$2,771,382	146.1
	\$2,295,010	\$8,554,568	173.2
	\$1,268,950	\$1,758,502	127.8
	\$2,337,220	( <sup>2</sup> )	

<sup>1</sup> Decrease.

<sup>2</sup> Not separately reported.

<sup>1</sup>Tenth Census of the United States, Report on Silk Manufacture, by William C. Wyckoff, special agent, page 21.

<sup>2</sup>Eleventh Census of the United States: Report on Manufacturing Industries, Part III, page 215.

It will be noted that Table 5 shows an apparent decrease of 29.3 per cent in quantity and 36.2 in cost of organzine and tram as materials used and 33.8 per cent in value as products manufactured. The explanation for this seeming anomaly lies in the fact that the organzine and tram manufactured by commission or custom throwsters are not included in the statistics for 1900 presented in this report, either as materials used or as products manufactured, although so included in 1890. Therefore, in a comparison of the two censuses, the 2,331,456 pounds of raw silk thrown into organzine and the 1,967,203 pounds thrown into tram by commission throwsters in 1900 should be taken into consideration. As elsewhere explained, the small increase in the number of establishments is partly accounted for by the elimination from this report of 39 braids and trimmings and 78 hosiery and knit goods manufacturers.

The industry has undergone many changes since 1850, when the variety of its products was very limited. The demands of fashion, the adaptability of silk to fancy designs, and the varying proportions in which silk may be used with other materials in fabrics of all kinds have resulted in an almost unlimited variety of products. Much of the silk spun is now consumed in cotton and woolen mills, while the silk mills consume large quantities of cotton and woolen yarns.

There were 1,667,195 pounds of silk waste and noils consumed in the industry in the census year, from which were produced 661,292 pounds of spun-silk yarn. Of this quantity 437,459 pounds were made for sale to textile manufacturers and 223,833 pounds consumed in

manufacturing by the spinners of the yarn. Adding 1,550,291 pounds reported as spun silk used as materials, there were 1,774,124 pounds of spun silk consumed by the silk industry in the census year.

The quantity of spun-silk yarns of all grades imported in the fiscal year ending June 30, 1900, was 2,336,946 pounds; adding thereto the amount made in the United States during the census year, 661,292 pounds, we find the total for distribution among the textile industries to be 2,998,238 pounds.

The quantities of raw silk and spun-silk yarns consumed by the textile industries of the United States are reported as follows for the censuses of 1890 and 1900:

	RAW SILK.		SPUN-SILK YARNS.	
	1890	1900	1890	1900
Silk manufacture.....	Pounds. 6,376,881	Pounds. 9,760,770	Pounds. ( <sup>1</sup> ) 18,583	Pounds. 21,774,124
Cotton manufacture.....	32,851	342,425	18,583	218,255
Wool manufacture <sup>2</sup> .....	166,709	70,078	38,785	253,811
Hosiery and knit goods.....	77,597	162,424	42,744	109,823

<sup>1</sup>Not reported.

<sup>2</sup>Includes 223,833 pounds remanufactured into other silk goods by the spinners.

<sup>3</sup>Including woolen goods, worsted goods, fur hats, felt goods, and carpets.

Table 6 indicates the extent of the further interchange of fibers for the silk industry, and shows the quantity and cost of the different textile materials reported at the censuses of 1890 and 1900 and the cost of all other materials (fuel, mill supplies, etc.), and the percentage which each item forms of the total.

TABLE 6.—COMPARATIVE SUMMARY OF MATERIALS: 1890 AND 1900.

	MATERIALS USED.				PER CENT OF TOTAL.			
	Pounds.		Cost.		Pounds.		Cost.	
	1900	1890	1900	1890	1900	1890	1900	1890
Total materials.....	22,507,488	17,409,054	\$62,406,665	\$51,004,425	100.0	100.0	100.0	100.0
Silk materials.....	15,390,760	11,784,094	55,636,895	46,351,200	68.4	67.7	89.2	90.9
Textile yarns other than silk.....	7,116,728	5,624,960	2,406,354	2,327,684	31.6	32.3	3.9	4.6
Cotton yarn.....	6,444,208	( <sup>1</sup> )	1,830,550	( <sup>1</sup> )	28.6	.....	2.9	.....
Mercerized cotton yarn.....	219,861	( <sup>1</sup> )	165,683	( <sup>1</sup> )	1.0	.....	0.3	.....
Wool yarn.....	239,461	( <sup>1</sup> )	167,770	( <sup>1</sup> )	1.1	.....	0.3	.....
Mohair yarn.....	104,810	( <sup>1</sup> )	107,365	( <sup>1</sup> )	0.4	.....	0.2	.....
Other yarns.....	108,388	( <sup>1</sup> )	134,986	( <sup>1</sup> )	0.5	.....	0.2	.....
All other materials.....	.....	.....	4,313,416	2,325,541	.....	.....	6.9	4.5

<sup>1</sup>Not reported separately in 1890.

Table 6 shows but slight differences in the several percentages at the two census periods. Owing to the high cost of silk per pound, the textile yarns other than silk form a much smaller percentage of the total cost of materials than of the total quantity.

The statistics for 1890, as presented in this table, show that establishments engaged in the manufacture of silk and silk goods used silk materials (raw, waste, spun, organzine, tram, etc.) and yarns other than silk amounting to 17,409,054 pounds. Of this total

quantity, silk materials formed 67.7 per cent and yarns other than silk 32.3 per cent. In 1900 the same class of materials amounted to 22,507,488 pounds, of which quantity silk materials formed 68.4 per cent and yarns other than silk 31.6 per cent. The total cost of these materials in 1890 was \$48,678,884, of which cost silk formed 95.2 per cent and yarns other than silk 4.8 per cent, while the cost in 1900 was \$58,093,249, of which amount silk formed 95.9 per cent and yarns other than silk 4.1 per cent.



## SEWING SILK AND MACHINE TWIST.

Connecticut continues in the lead in the production of sewing silks and machine twist, its proportion being 47.1 per cent of the total quantity manufactured. Massachusetts is second, its proportion being 30 per cent. These two states produced 77.1 per cent of the total annual output of this class of goods. The following statement shows the output in pounds, for the census year, of the several states in the order of their importance as manufacturers of these products:

	Total.	Sewing, embroidery, and wash silks.	Machine twist.
	Pounds.	Pounds.	Pounds.
United States.....	1,465,575	477,658	987,917
Connecticut.....	690,455	145,032	545,423
Massachusetts.....	439,661	170,423	269,241
Michigan.....	124,535	64,000	60,535
Pennsylvania.....	117,951	74,475	43,476
New York.....	65,028	18,528	46,500
California.....	27,942	5,200	22,742

There is very little competition from abroad with domestic manufacturers of sewing silk and machine twist. In fact, the United States product is universally acknowledged as superior in finish and purity of dye to that of any other country, chiefly because only the best Japan and China filatures, dyed unweighted, are used. It is noteworthy that at the Paris Exposition of 1900, the grand prix d'honneur, the highest award given, was awarded to an American exhibitor of this class of silks.

Among the most important changes in the methods of business in this branch of the industry during the past decade are the following:

1. An increase in the use of machine twist for manufacturing purposes has been effected by shortening the lengths from 1-ounce or large spools to 200 and 100 yard spools. While this is a decided convenience and benefit to the smaller manufacturing trade, it entails greater cost to the silk manufacturer in the additional spooling and spools and in preparing the goods for the market. In the early days of the industry—say forty years ago—sewing silk was universally put up in skeins, but with the introduction of sewing machines and their use in the manufacture of clothing and shoes, that practice is now a thing of the past, fully 99 per cent of all machine and sewing silk being, at this time, put up on spools.

2. A decided tendency toward finer sizes of thread. Formerly the average size used was about size A, representing 1,000 yards per ounce. To-day the principal goods sold are double 0 (00), representing 1,600 yards per ounce.

While these changes have been a benefit to the consumer, they subject the silk manufacturer to the additional expense of spooling up 96 or 192 spools instead of 12, and to the further disadvantage of being able to

“throw” only 300 pounds of 00 in the time sufficient to “throw” 480 pounds A. The increasing quantities used in the manufacture of clothing and leather goods necessitates the use of an increased quantity of fine sizes for certain parts of the work.

These commercial changes, which are a direct loss to the manufacturer through the increase of his expense account, are indicative of his controlling desire to lead the trade in the direction of greater economies in the distribution of his product, and for that reason are noteworthy.

About two-thirds of the output of machine twist is sold to manufacturers of clothing, shoes, cloaks, etc., one-third being sold to the dry-goods trade in small wares, such as spool silks for the retail dressmaking trade. The manufacturing trade absorbs about one-half of sewings, the remaining one-half being sold as small wares in embroidery silks, knittings, and wash embroidery silks. The sale of embroidery silks has increased phenomenally during the decade, owing to the great vogue of art embroideries for decorative purposes.

Other noticeable features of the decade have been marked improvements in the luster and evenness of the thread, firmness of the twist, and great variety of brilliant, plain, and ombre or shaded colors, perfectly blended. In sewing silks alone a full assortment of colors now runs up to 200.

The following statement illustrates the growth of this branch of the industry, and gives the percentage of increase in quantities produced since the census of 1860:

CENSUS YEAR.	Pounds.	Value of product.	Per cent of increase in quantity.
1850.....	(1)	\$1,209,426	.....
1860.....	409,429	(1)	.....
1870.....	516,021	(1)	26.2
1880.....	791,525	6,788,855	53.2
1890.....	1,119,825	7,088,213	41.5
1900.....	1,465,575	9,274,800	30.9

<sup>1</sup> Not reported separately.

<sup>2</sup> All sewing silk; machine twist first made in 1852.

<sup>3</sup> Sewing silk and machine twist only.

## BROAD SILK WEAVING.

The salient features of the development of broad silk weaving in the United States during the past decade are four in number:

1. The production of silk taffetas in both black and colors by power looms. This method of producing these goods was first employed in the United States, the production being on a scale of sufficient commercial importance to entitle this country to credit for its success. Later, power loom weaving of taffetas was adopted in Europe as a profitable commercial proposition. Foreign countries are now, therefore, close competitors in the manufacture of these goods, but the credit of original achievement remains with the United States. The

importance of this fact is best realized when we consider that fully one-half of the fabrics produced to-day in the United States on silk power looms are properly included in the "taffeta" class.

2. While a small proportion of the high-class "fancies" consumed in this country is of French origin, the great bulk is made by domestic mills. We are indebted for this result to the energy and versatility of the manufacturers, who during the last decade seized upon the possibility of reproducing here the grades of French and Swiss "fancies," which by their attractiveness dominated the American market. We have succeeded in manufacturing every variety of checks, stripes, and figured goods (Jacquards) in popular grades. The American silk industry can fairly claim to be unexcelled at the present time in the production of this class of goods.

3. Marked progress in the manufacture of piece-dyed goods woven with raw-silk warps. Continually expanding facilities for piece dyeing in silk manufacturing establishments and in dyehouses have largely increased the output of this description of fabrics. Both piece dyeing and printing have been for many years features of the foremost silk manufacturing establishment in the United States, but recent favoring circumstances have given a great impetus to these branches of the industry. At the present time piece-dyed and printed goods of domestic manufacture have largely replaced the imports from Europe. Formerly the European productions were printed exclusively in Europe. As a consequence of the American tariff, European manufacturers have been shipping a considerable quantity of their goods to this side in the raw or gum to be printed. At the present time both the manufacture and the printing of the fabric are so successfully accomplished in the United States that the domestic production dominates our own markets in these specialties.

4. Under pressure of sharp competition, both foreign and domestic, American manufacturers have been compelled to study more closely the intricate details of

manufacturing and to master the economies developed abroad by experience and long practiced there.

Warp-print fabrics have also been manufactured to a large extent in the United States during the past ten years, both in broad silks and in ribbons. Warp-print goods, including tie silks made in this country, have reached such a degree of perfection that at the Paris Exposition of 1900 gold medals were awarded to two American exhibitors of these fabrics.

A similar award was also made to an American exhibitor of plain black silks for the superior weave and finish of the fabric.

A striking feature of the industry is the increase in the number of power looms and the decrease in hand looms. The following statement presents the number of power and hand looms at each census from 1880 to 1900, inclusive:

	1880	1890	1900
Power looms on broad goods .....	3,103	14,866	36,825
Power looms on narrow goods .....	2,218	5,956	7,482
Hand looms on broad goods .....	1,629	418	164
Hand looms on narrow goods .....	1,524	1,384	9

The power looms used on broad goods in 1900 were classified as follows:

Plain looms, 36 inches or over, reed space .....	13,077
Plain looms, under 36 inches, reed space .....	16,161
Jacquard broad looms .....	7,587

Table 7 presents a summary, by states, of establishments classified according to the number of looms operating on broad silk goods, not including broad looms on velvets and plushes, during the census year. It should be noted that where several mills in the same state are operated by one firm they are treated as one establishment and classified according to the combined total of looms.

VELVETS.—One of the notable developments of the past decade, realizing the earlier ambitions of the Amer-

TABLE 7.—BROAD-SILK WEAVING MILLS, CLASSIFIED BY NUMBER OF LOOMS: 1900.

STATES.	Total number of establishments.	ESTABLISHMENTS CLASSIFIED BY NUMBER OF BROAD LOOMS.								Total number of broad looms.
		Under 50.	50 and under 150.	150 and under 250.	250 and under 500.	500 and under 750.	750 and under 1,000.	1,000 and under 1,250.	1,250 and over.	
United States .....	289	87	81	29	31	5	2	3	1	35,446
1. New Jersey:										
Paterson .....	84	26	36	11	10	1				10,475
Outside of Paterson .....	31	10	8	2	8	1				7,077
2. Pennsylvania .....	56	19	14	10	8	2	2			10,662
3. New York .....	39	20	12	5	2				1	2,867
4. Connecticut .....	5		2		2			1		1,594
5. Massachusetts .....	6	3	2			1				896
6. Rhode Island .....	4	3			1					538
7. New Hampshire .....	1			1						209
8. Delaware .....	2	1	1							191
9. Virginia .....	1		1							147
10. Maryland .....	1		1							144
11. North Carolina .....	2		2							125
12. Maine .....	1		1							120
13. Michigan .....	1		1							62
14. Illinois .....	2	2								34
15. Utah .....	2	2								8
16. California .....	1	1								2

ican silk manufacturers, has been the manufacture of velvet in this country on a paying basis. The American consumption of velvets and plushes is not so large as that of other weaves. It is estimated at a value of \$8,930,450 annually, but when we realize that mills in the United States are now supplying 55.5 per cent of this amount it becomes evident that the problem of successful production is being solved. The development during the past decade has been principally along the lines of medium grades of black and colored velvets, used largely for millinery and dress trimmings. In these grades the United States is now supplying 75 per cent of the trade consumption. There is a growing tendency to decided improvement in the better grades; also in the successful manipulation of "panne" velvets, and in various styles of fancy velvets, such as checks, stripes, and figures. The yardage of velvets produced in the census year was 5,122,249 yards, the reported value at the factory being \$2,479,903.

Germany has been most seriously affected by the competition of the United States in the last ten years. Lyon has well held its own, on account of its new fabrics, styled "velours panne" and "velours mousseline." Its supremacy over Crefeld is due in fact to its higher grades of velvet, produced by using pure silk instead of spun silk and cotton. Lyon continues to excel and control the bulk of the trade in all pile fabrics where the material is reeled silk.

The relative importance of the velvet trade with the United States from these foreign centers is shown by the following figures of their exports to the United States for the past four years.<sup>1</sup>

YEAR.	From Lyon, velvets and plushes.	From Crefeld, silk velvets.	From Crefeld, cotton velvets.
1897 .....	\$328,070	\$1,268,142	\$194,450
1898 .....	345,717	601,849	153,855
1899 .....	304,912	631,256	174,675
1900 .....	498,558	802,876	235,711

**PLUSHES.**—The production of plushes amounted to 3,848,684 yards, the factory value being \$2,480,068. The relative positions of velvets and plushes as to the quantity of each manufactured have been reversed during the past decade. Ten years ago the seal plush and

<sup>1</sup> Exports Declared for the United States, quarterly publication United States Department of State.

upholstery plush industry in the United States was in a flourishing condition, and continued so for some time; but in 1900 it was much less so, and at the time of writing this report the seal plush industry especially has suffered yet greater decline. The census of 1890 reported a product of velvets and plushes valued at \$3,141,026, but though no separate classification of the two items was then made, it was recognized that the output of plushes largely exceeded that of velvets.<sup>2</sup> At this census the yardage and factory cost of both descriptions of goods are given.

Seal plushes are used in the cloak, cape, cap, and trimmings trades. Sharp domestic competition finally reduced prices materially, but the benefit to consumers was of comparatively brief duration. Cheaper and yet cheaper grades of goods were made until, fashion no longer favoring the fabric, the demand declined as stated. The importation of these goods from England, where formerly the largest proportion of them was manufactured, has now entirely ceased.

The development of broad goods weaving in the United States is best illustrated by a comparison of the production of such goods in each census year since 1870, which is shown in the following statement, presenting the yardage, the value, and the per cent of increase in the quantity of broad silk goods manufactured in the United States at the periods mentioned, including tapestry and upholstery silks, velvets, and plushes, and embracing all silk goods and silk-mixed fabrics (woven on broad looms) in which silk is the material of chief value.

CENSUS YEAR.	Yards.	Value of products.	Per cent of increase in quantity.
1870 .....	1,026,422	(1)	.....
1880 .....	10,856,284	\$11,224,895	957.7
1890 .....	37,648,220	29,809,108	246.8
1900 .....	97,940,935	58,122,622	160.2

<sup>1</sup> Not reported separately.

<sup>2</sup> The census of 1900 separates the yardage and value as follows: All silk, 68,487,218 yards, valued at \$42,573,279; and silk mixed, 29,503,717 yards, valued at \$15,549,348.

Table 8 presents, in detail, the production of broad silk goods by yardage, value, and average value per yard for the United States during the census year.

<sup>2</sup> Eleventh Census of the United States, Report on Manufacturing Industries, Part III, page 217.

TABLE 8.—SILK BROAD GOODS MANUFACTURED: 1900.

CLASSES.	TOTAL.			ALL-SILK BROAD GOODS.			SILK-MIXED BROAD GOODS.		
	Quantity (yards).	Value.	Average value per yard (cents).	Quantity (yards).	Value.	Average value per yard (cents).	Quantity (yards).	Value.	Average value per yard (cents).
Total .....	97,940,935	\$58,122,622	59.3	68,487,218	\$42,573,279	62.2	29,503,717	\$15,549,348	52.7
Plain and fancies .....	62,536,803	39,802,821	62.8	53,573,488	33,852,111	63.2	8,963,315	5,450,710	60.8
Jacquards .....	9,209,695	6,639,322	72.1	7,532,229	5,379,001	71.4	1,677,466	1,200,321	75.1
Piece-dyed .....	15,890,385	6,210,673	39.1	7,331,501	3,342,167	45.6	8,558,884	2,868,506	33.5
Velvets .....	5,122,249	2,479,903	48.4	.....	.....	.....	5,122,249	2,479,903	48.4
Plushes .....	3,848,684	2,480,068	64.4	.....	.....	.....	3,848,684	2,480,068	64.4
Tapestry and upholstery .....	1,838,119	1,009,835	75.7	.....	.....	.....	1,838,119	1,009,835	75.7

Table 9. presents a summary, by states, of establishments classified according to number of looms operating on velvets and plushes.

TABLE 9.—VELVET AND PLUSH WEAVING MILLS, CLASSIFIED BY NUMBER OF LOOMS: 1900.

STATES.	Total number of establishments.	ESTABLISHMENTS CLASSIFIED BY NUMBER OF LOOMS.				Total number of looms.
		Under 50.	50 and under 150.	150 and under 250.	250 and over.	
United States.....	15	4	8	1	2	1,543
1. Connecticut.....	6	.....	4	1	1	787
2. Pennsylvania.....	4	2	1	.....	1	499
3. New York.....	2	.....	2	.....	.....	153
4. New Jersey:						
Paterson.....	2	1	1	.....	.....	86
Outside of Paterson.....	1	1	.....	.....	.....	18

#### SILK RIBBONS.

Awards of gold and silver medals were made at the Paris Exposition of 1900 to American manufacturers of plain and faconné ribbons.

The invention of the high-speed ribbon loom, about ten years ago, was a great advance over the so-called "Swiss" and "German" power looms which were used exclusively in this country up to 1889. The new loom was first made in the United States, and in the last few years has reached a high state of perfection. Ease in leveling the harness, handling the warps, and the positive control of the take-up, which enable the looms to be run at continuous high speed, are the marked features of this invention. It has furnished occupation for a new class of labor, women being now generally and profitably employed in this particular grade of

work, whereas on the looms formerly in use male labor was a necessity.

It is not too much to say that the equipment of ribbon machinery in the United States is now equal to any commercial demand that may be made upon it in turning out all articles of ribbon known to the trade.

The ribbon looms reported were classified as follows:

Total .....	7,441
German looms. warps on top.....	4,471
High-speed looms .....	2,105
Jacquards.....	856
Hand looms.....	9

Table 10 presents a summary, by states, of establishments classified according to number of looms operating on ribbons.

TABLE 10.—SILK RIBBON WEAVING MILLS, CLASSIFIED BY NUMBER OF LOOMS: 1900.

STATES.	Total number of establishments.	ESTABLISHMENTS CLASSIFIED BY NUMBER OF LOOMS.					Total number of looms.
		Under 50.	50 and under 150.	150 and under 200.	200 and under 300.	500 and over.	
United States .....	115	65	39	5	5	1	7,441
1. New Jersey:							
Paterson.....	37	19	12	8	3	.....	2,655
Outside of Paterson.....	5	4	1	.....	.....	.....	261
2. New York.....	31	16	12	2	.....	1	2,248
3. Pennsylvania.....	35	23	10	.....	2	.....	1,788
4. Connecticut.....	5	3	2	.....	.....	.....	294
5. Massachusetts.....	1	.....	1	.....	.....	.....	144
6. Maryland.....	1	.....	1	.....	.....	.....	51

#### THROWING SPINDLES.

Table 11 presents a summary, by states, of establishments classified according to number of organzine and tram spindles.

TABLE 11.—MILLS CLASSIFIED BY NUMBER OF THROWING SPINDLES: 1900.

STATES.	Total number of establishments.	ESTABLISHMENTS CLASSIFIED BY NUMBER OF THROWING SPINDLES.												Total number of throwing spindles.
		Under 2,500.	2,500 and under 5,000.	5,000 and under 7,500.	7,500 and under 10,000.	10,000 and under 12,500.	12,500 and under 15,000.	15,000 and under 20,000.	20,000 and under 25,000.	25,000 and under 40,000.	40,000 and under 45,000.	45,000 and under 50,000.	75,000 and over.	
United States .....	121	35	21	21	13	8	3	5	8	3	1	2	1	1,045,304
1. Pennsylvania.....	45	7	3	8	7	4	2	4	5	2	1	1	1	611,670
2. New Jersey:														
Paterson.....	29	10	7	7	2	1	.....	1	.....	.....	.....	.....	.....	171,410
Outside of Paterson.....	13	5	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	101,106
3. New York.....	12	3	4	3	2	2	1	.....	1	1	.....	.....	.....	47,941
4. Massachusetts.....	3	1	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	31,306
5. Connecticut.....	9	6	2	.....	1	1	.....	.....	.....	.....	.....	.....	.....	29,662
6. Virginia.....	2	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	28,372
7. North Carolina.....	2	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	9,689
8. New Hampshire.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,408
9. Delaware.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10. Maine.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,264
11. Michigan.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,622
12. Maryland.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,104
13. California.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	618
														88

The number of throwing spindles reported for this census, as shown in Table 11, is 1,045,304; these spindles are classified as follows:

Organzine, first time over.....	532,180
Organzine, second time over .....	345,145
Tram spindles.....	117,979

The total number of accessory spindles, as shown in Table 23, is 942,100, making an aggregate of 1,987,404, as against 1,087,395 similar spindles in 1890 and 426,530 in 1880.

Of the total number of throwing spindles reported at

this census, 58.5 per cent were located in Pennsylvania, the center of the throwing industry. It will be noticed that 20 establishments of the 45 reported in this state operate more than 10,000 spindles, and one as high as 75,000 spindles.

American "throwing" is done principally on belt spinners which are run from 11,000 to 12,000 turns a minute on first time over and 9,000 on second time over. The machines and organizations are inferior to none.

A review of the improvements effected in the past decade in "throwing" machinery will be found appended.

#### FINISHED SILK GOODS.

Owing to the differences in the schedules of inquiry and in the methods employed at the several censuses, and the changing conditions in the industry, necessitating changes in the classification of the manufactured products, it is not possible to present a table giving comparable items of production for this and preceding censuses.

At this census the aim has been to indicate the production by quantities (yardage and pounds) so far as was possible, as comparison by values is frequently misleading, owing to changes in the price of merchandise. The classification of the products of the loom by their commercial designations as fabrics, which was employed in former censuses, has been abandoned, for the reason that considerable quantities are now woven and sold in the grey, even the sellers, for example, not knowing whether the fabrics would be finished for dress goods, cloak linings, hat linings, or millinery, etc. By the method adopted the yardage of all silk fabrics or silk-mixed goods is shown for 1900. For this reason comparison of production with previous censuses is difficult as to special articles, but it is believed that the change is a wise one, as the former classification is no longer practicable. The following statements present for 1880, 1890, and 1900, respectively, the quantities and values of the finished or merchantable products:

#### FINISHED GOODS FOR THE CENSUS YEAR 1880.<sup>1</sup>

	Quantity.	Value.
Total value.....		\$34,519,723
Sewing silk.....		776,120
Machine twist.....		6,007,735
Floss silk.....	821,528 pounds...	225,025
Dress goods.....		4,115,205
Satins.....		1,101,875
Tie silks and scarfs.....		606,675
Millinery silks.....	10,856,284 yards...	891,955
Other broad goods.....		627,595
Handkerchiefs.....		3,881,590
Ribbons.....		6,023,100
Laces.....	30,129,951 yards...	437,000
Braids and bindings.....		999,685
Fringes and dress trimmings.....		4,950,275
Cords, tassels, passementeries, and millinery trimmings.....		1,866,575
Upholstery and military trimmings.....		1,892,355
Coach lace and carriage trimmings.....		37,510
Undertakers', hatters', and fur trimmings.....		59,805
Mixed goods and silk values therein.....		519,643

<sup>1</sup> Tenth Census of the United States, Report on Silk Manufacture, by William C. Wyckoff, special agent, pages 25 and 26.

#### FINISHED GOODS FOR THE CENSUS YEAR 1890.<sup>1</sup>

	Quantity.	Value.
Total value.....		\$69,154,599
Machine twist and sewing silk.....	1,119,825 pounds...	7,068,213
Fringe, knitting, embroidery, and floss silk.....		1,849,631
Dress goods, figures and plain.....	329,637 pounds...	15,183,134
Tailors' linings.....		3,011,437
Tie silks and scarfs.....		919,919
Other broad goods.....	37,648,220 yards...	1,928,036
Handkerchiefs.....		1,913,224
Velvets and plushes.....		3,141,026
Upholstery goods:		
Curtains.....		471,324
Tapestries.....		1,380,287
Other upholstery goods.....		1,910,721
Ribbons.....		17,081,447
Laces.....	25,737,211 pieces...	201,750
Braids and bindings.....		2,771,332
Gimps and trimmings.....		3,918,209
Dress and cloak trimmings.....		4,403,757
Military trimmings.....		232,600
Hosiery and knit goods:		
Shirts and drawers.....		26,421
Hosiery.....		141,133
Mittens, gloves, etc.....		897,904
Jersey cloth.....		90,664
Other products.....		602,330

<sup>1</sup> Eleventh Census of the United States, Report on Manufacturing Industries, Part III, pages 213 and 214.

#### FINISHED GOODS FOR THE CENSUS YEAR 1900.

	Quantity.	Value.
Total value.....		\$92,451,212
Machine twist.....	987,917 pounds...	5,997,974
Sewing, embroidery, and wash silks.....		3,276,326
Fringe and floss silks.....	193,659 pounds...	696,982
Broad goods, total.....	97,940,935 yards...	58,125,622
Broad silks, all silk, and silk mixed:		
Plain and fancies.....	62,586,803 yards...	39,302,821
Jacquards.....	9,209,695 yards...	6,639,322
Piece-dyed.....	15,890,385 yards...	6,210,678
Velvets.....	5,122,249 yards...	2,479,903
Plushes.....	3,848,684 yards...	2,480,068
Upholstery and tapestry.....	1,333,119 yards...	1,009,885
Ribbons.....		18,467,179
Laces, nets, veils, veillings, etc.....		803,104
Braids and bindings.....		1,522,565
Dress, cloak, millinery, and military trimmings.....		2,295,010
All other products.....		1,268,950

#### COMPARATIVE STATISTICS BY STATES.

Table 12 is a comparative summary, by states, for 1880, 1890, and 1900, of the data reported under the principal heads of the inquiry.

In considering the comparative statistics shown in Table 12, it should be understood that the omission of silk hosiery and knit goods, and of braids and trimmings in which silk was a material of minor value, reduces the increase between 1890 and 1900. The large decrease in New York during the last decade is due, in part, to this omission, which affects, more or less, the statistics for the other states. A noticeable feature shown in Table 12 is the practical disappearance of hand looms and the marked increase in power looms. The number of spindles has increased, since 1880, 363.6 per cent.

The five leading states in silk manufacture at the last three censuses were New Jersey, Pennsylvania, New York, Connecticut, and Massachusetts. The relative

rank of these states with respect to the principal items of information presented in the table varied slightly from time to time as shown in the following statement, the number indicating the rank:

STATES.	NUMBER OF ESTABLISHMENTS.			CAPITAL.			AVERAGE NUMBER OF WAGE-EARNERS.			WAGES.			COST OF MATERIALS USED.			VALUE OF PRODUCTS.		
	1900	1890	1880	1900	1890	1880	1900	1890	1880	1900	1890	1880	1900	1890	1880	1900	1890	1880
New Jersey.....	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pennsylvania.....	2	3	3	2	3	4	2	3	4	2	3	4	2	2	5	2	3	6
New York.....	3	1	1	4	2	2	3	2	2	3	2	2	4	3	8	2	2	2
Connecticut.....	4	4	4	3	4	3	4	4	3	4	4	3	3	4	3	4	4	3
Massachusetts.....	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	4

Based upon all essential considerations, the states included in the statement rank, at this census, in the order given. The greatest growth is noted in Pennsylvania, which, from a position of comparative insignificance in 1880, has advanced to second place at this census. This may be characterized as one of the prin-

cipal developments of the industry during the interval. It is a result of the abundance of suitable labor and cheap fuel in the eastern part of the state, advantages which continue to influence the establishment of new silk mills and the removal of old plants from other localities.

TABLE 12.—COMPARATIVE SUMMARY FOR THE UNITED STATES, BY STATES, 1880, 1890, AND 1900.

STATES.	Year.	Number of establishments.	Capital.	SALARIED OFFICIALS, CLERKS, ETC.		AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES.					Miscellaneous expenses.	Cost of materials used.	Value of products, including amount received for contract work.	Number of spindles.	NUMBER OF LOOMS.		
				Number.	Salaries.	Total number.	Total wages.	Men, 16 years and over.	Women, 16 years and over.	Children, under 16 years.					Total.	Power.	Hand.
United States	1900	483	\$81,082,201	2,657	\$3,134,352	65,416	\$20,982,194	24,206	34,797	6,413	\$10,264,208	\$62,406,665	\$107,256,258	1,987,404	44,480	44,267	173
	1890	472	51,007,537	1,531	1,917,877	49,382	17,762,441	17,602	28,914	2,866	4,259,623	61,004,425	87,298,454	1,087,395	22,509	20,822	1,747
	1880	382	19,125,300	( <sup>1</sup> )	( <sup>1</sup> )	31,337	9,146,705	9,375	16,396	5,566	( <sup>2</sup> )	22,467,701	41,038,045	426,530	8,474	5,321	3,153
California.....	1900	5	308,847	6	4,998	117	33,055	24	91	2	4,113	146,219	255,902	3,380	2	2	.....
	1890	9	112,232	11	15,276	205	68,290	49	152	2	10,438	146,406	271,912	2,817	36	1	35
	1880	5	164,300	( <sup>1</sup> )	( <sup>1</sup> )	151	41,400	20	106	25	( <sup>2</sup> )	80,995	159,175	350	24	.....	24
Connecticut.....	1900	38	12,166,775	323	403,423	6,514	2,392,873	2,763	3,585	168	637,450	7,198,008	12,378,981	160,748	2,975	2,975	.....
	1890	35	9,037,042	117	159,273	4,964	1,847,531	1,540	3,301	123	270,426	6,201,876	9,788,951	120,604	1,378	1,372	6
	1880	28	4,436,500	( <sup>1</sup> )	( <sup>1</sup> )	3,428	1,026,530	785	1,990	653	( <sup>2</sup> )	3,811,206	5,881,000	88,825	616	003	12
Illinois.....	1900	4	259,540	33	51,180	412	121,644	81	310	21	42,410	187,514	421,088	.....	34	27	7
	1890	10	422,096	49	54,314	760	241,322	157	589	10	35,761	314,855	785,845	732	126	44	82
	1880	5	82,000	( <sup>1</sup> )	( <sup>1</sup> )	259	72,195	67	135	57	( <sup>2</sup> )	125,895	244,150	.....	64	18	61
Maryland.....	1900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1890	4	50,400	3	3,600	72	20,638	28	44	.....	3,768	34,305	100,361	.....	14	.....	.....
	1880	4	20,900	( <sup>1</sup> )	( <sup>1</sup> )	82	11,000	12	56	14	( <sup>2</sup> )	15,760	35,415	.....	39	.....	59
Massachusetts.	1900	20	5,649,758	156	227,276	3,110	1,110,324	1,102	1,837	171	382,745	3,828,963	5,957,532	107,812	1,040	1,017	23
	1890	20	3,353,296	223	258,115	2,993	1,038,284	977	1,928	88	484,300	3,251,893	5,557,509	81,435	540	444	96
	1880	22	1,306,900	( <sup>1</sup> )	( <sup>1</sup> )	1,826	521,726	353	1,285	188	( <sup>2</sup> )	1,990,515	3,764,200	30,450	241	88	163
New Jersey....	1900	180	29,285,792	959	1,144,512	24,167	9,232,532	11,279	11,679	1,199	4,896,595	21,631,118	39,966,662	536,065	20,572	20,557	15
	1890	132	16,809,927	472	541,570	17,445	6,634,610	7,773	8,778	899	1,356,137	17,908,883	30,760,371	350,864	11,724	11,487	237
	1880	106	6,952,325	( <sup>1</sup> )	( <sup>1</sup> )	12,549	4,177,745	4,696	5,860	2,493	( <sup>2</sup> )	9,678,536	17,122,230	210,783	4,558	2,956	1,597
New York.....	1900	92	9,800,207	363	514,439	7,861	2,861,818	3,149	4,299	413	1,601,527	6,570,037	12,706,246	136,708	5,268	5,175	93
	1890	185	11,165,918	432	601,336	12,719	4,983,063	4,456	7,988	280	1,123,671	10,174,818	19,417,796	154,969	4,940	3,888	1,052
	1880	151	4,696,775	( <sup>1</sup> )	( <sup>1</sup> )	9,633	2,590,025	2,405	5,459	1,769	( <sup>2</sup> )	5,831,804	10,170,140	67,271	2,036	1,095	991
North Carolina	1900	3	130,376	11	3,455	209	25,420	35	119	55	5,159	99,403	185,354	18,790	125	125	.....
	1890	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1880	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ohio.....	1900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1890	3	37,830	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1880	6	24,700	( <sup>1</sup> )	2,512	36	11,173	8	28	.....	2,662	13,983	33,927	.....	16	.....	16
Pennsylvania..	1900	121	20,894,023	745	718,776	21,028	4,629,026	5,214	11,665	4,249	2,451,820	19,884,809	31,072,926	942,545	12,949	12,020	29
	1890	66	9,362,063	192	256,049	9,330	2,725,285	2,420	5,617	1,298	939,051	12,094,889	19,357,646	318,215	8,583	8,360	223
	1880	49	1,379,900	( <sup>1</sup> )	( <sup>1</sup> )	3,189	678,120	1,000	1,870	319	( <sup>2</sup> )	1,830,985	3,491,840	26,241	.....	566	262
Rhode Island..	1900	6	680,252	8	12,320	455	166,675	124	326	5	103,454	813,561	1,311,333	4,212	533	533	.....
	1890	3	122,256	8	8,507	186	63,471	49	107	30	17,427	149,763	229,062	3,393	48	43	.....
	1880	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Virginia.....	1900	3	594,359	12	12,678	473	105,056	144	228	101	15,300	720,525	981,680	41,798	147	147	.....
	1890	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1880	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other states	1900	11	1,812,272	41	41,295	1,080	303,171	291	758	31	123,635	1,326,448	2,068,554	35,856	785	770	6
	1890	5	534,426	20	17,325	678	138,779	145	392	141	15,862	718,254	995,114	36,704	169	169	.....
	1880	6	61,000	( <sup>1</sup> )	( <sup>1</sup> )	85	15,415	16	62	7	( <sup>2</sup> )	82,510	111,725	8,610	2	.....	2

<sup>1</sup> Not reported separately.

<sup>2</sup> Not reported.

<sup>3</sup> Included in "all other states."

<sup>4</sup> Includes establishments distributed as follows: Delaware, 2; Maine, 1; Maryland, 2; Michigan, 2; New Hampshire, 2; Utah, 2.

<sup>5</sup> Includes establishments distributed as follows: Maine, 1; Michigan, 1; Missouri, 1; North Carolina, 1; Virginia, 1.

<sup>6</sup> Includes establishments distributed as follows: Kansas, 1; Maine, 1; Missouri, 1; New Hampshire, 1; Rhode Island, 1; Vermont, 1.

## CAPITAL.

Table 13 is a comparative statement in detail of capital for 1890 and 1900, by states.

The value of land and buildings owned, as shown by Table 13, is \$12,250,905 as compared with \$6,904,628 in 1890. The estimated value of hired property as reported at the census of 1890 was \$10,335,160, for which \$734,268 was paid as rent for tenancy, or 7.1 per cent. In 1900 the amount reported as paid for rent of land and buildings was \$591,807, which, assuming that the earning power of property was the same, represented a capital value of \$8,335,310. The total amount of capital reported, \$81,082,201, does not include the

value of land and buildings rented. Compared with the census of 1890, the increase of aggregate capital is 59 per cent, and, specifically, land and buildings owned, 77.4 per cent; machinery, tools, and implements, 46.3 per cent; and cash and sundries, 60.7 per cent. The increase in the value of land and buildings owned, and the decrease in the value of land and buildings hired, as estimated, evidence the steadily growing prosperity of the industry. It is also interesting to note that in 1900 the value of finished goods produced for each dollar of capital invested was \$1.14, as compared with \$1.36 in 1890, and \$1.80 in 1880.

TABLE 13.—COMPARATIVE SUMMARY OF CAPITAL, BY STATES: 1890 AND 1900.

STATES.	Year.	Total.	Land.	Buildings.	Machinery, tools, and implements.	Cash and sundries.
United States .....	1900 1890	\$81,082,201 51,007,537	\$2,045,068 1,691,660	\$10,205,812 5,212,968	\$20,750,449 14,181,680	\$48,080,847 29,921,220
California .....	1900 1890	308,847 112,283	3,600	29,726	44,161 30,409	281,360 81,874
Connecticut .....	1900 1890	12,166,775 9,037,042	282,294 152,589	1,597,952 1,143,200	2,061,799 1,617,638	8,225,330 6,123,715
Illinois .....	1900 1890	259,540 422,096	15,000 33,000	25,000 60,000	95,959 106,200	123,581 222,896
Maryland .....	1900 1890	50,400	6,000	1,500	12,400	30,500
Massachusetts .....	1900 1890	5,649,758 3,353,296	216,341 77,300	756,454 287,500	707,345 591,908	3,969,618 2,896,588
New Jersey .....	1900 1890	29,285,792 16,809,927	733,367 590,919	2,966,084 1,579,100	7,297,856 5,039,564	18,288,485 9,600,284
New York .....	1900 1890	9,800,207 11,165,918	202,138 544,002	580,224 882,240	3,061,252 3,612,758	5,950,593 6,176,918
North Carolina .....	1900 1890	130,376	6,200	52,000	40,525	31,651
Ohio .....	1900 1890	37,830	10,000	5,000	1,760	21,080
Pennsylvania .....	1900 1890	20,894,023 9,362,063	491,598 286,850	3,688,545 1,225,652	6,696,158 2,941,679	10,017,722 4,957,882
Rhode Island .....	1900 1890	680,252 122,256	24,955	96,224	165,032 70,364	394,041 51,892
Virginia .....	1900 1890	594,359	12,600	174,440	210,200	197,119
All other states .....	1900 1890	1,312,272 584,426	57,000 41,000	233,763 78,716	370,162 157,110	651,347 257,600

<sup>1</sup>Included in "all other states."

<sup>2</sup>Includes statistics reported by establishments distributed as follows: Delaware, 2; Maine, 1; Maryland, 2; Michigan, 2; New Hampshire, 2; Utah, 2.

<sup>3</sup>Includes statistics reported by establishments distributed as follows: Maine, 1; Michigan, 1; Missouri, 1; North Carolina, 1; Virginia, 1.



## WAGE-EARNERS AND OPERATIVES EMPLOYED.

Table 14 presents the number of wage-earners—men, women, and children—by states, from 1870 to 1900, inclusive, with the percentage that each is of the total number.

TABLE 14.—COMPARATIVE SUMMARY OF WAGE-EARNERS, BY STATES: 1870, 1880, 1890, AND 1900.

STATES.	Year.	NUMBER.				PER CENT.		
		Total.	Men, 16 years and over.	Women, 16 years and over.	Children, under 16 years.	Men, 16 years and over.	Women, 16 years and over.	Children, under 16 years.
United States.	1900	65,416	24,206	34,797	6,413	37.0	53.2	9.8
	1890	49,382	17,602	28,914	2,866	35.6	58.6	5.8
	1880	31,337	9,375	16,396	5,566	29.9	52.3	17.8
	1870	6,649	1,734	3,529	1,386	26.1	53.1	20.8
California.	1900	117	24	91	2	20.5	77.8	1.7
	1890	203	49	152	2	24.1	74.9	1.0
	1880	161	20	106	25	13.2	70.2	16.6
Connecticut.	1900	6,514	2,763	3,585	166	42.4	55.0	2.6
	1890	4,964	1,540	3,301	123	31.0	66.5	2.5
	1880	3,428	785	1,990	653	22.9	58.0	19.1
	1870	1,703	466	1,003	234	27.4	58.9	13.7
Illinois.	1900	412	81	310	21	19.7	75.2	5.1
	1890	766	157	589	10	20.8	77.9	1.3
	1880	259	67	135	57	25.9	52.1	22.0
Maryland.	1900	72	28	44	—	38.9	61.1	—
	1890	82	12	56	14	14.6	68.3	17.1
Massachusetts.	1900	3,110	1,102	1,837	171	35.4	59.1	5.5
	1890	2,993	977	1,928	88	32.6	64.4	3.0
	1880	1,826	853	1,285	188	19.3	70.4	10.3
	1870	463	97	286	70	21.4	63.1	15.5
New Jersey.	1900	24,157	11,279	11,679	1,199	46.7	48.3	5.0
	1890	17,445	7,773	8,778	899	44.6	50.3	5.1
	1880	12,549	4,096	8,360	2,493	37.4	42.7	19.9
	1870	2,790	733	1,162	895	26.3	41.6	32.1
New York.	1900	7,861	3,149	4,299	413	40.1	54.7	5.2
	1890	12,719	4,456	7,983	280	35.0	62.8	2.2
	1880	9,633	2,405	5,459	1,769	25.0	56.7	18.3
	1870	739	164	418	172	20.8	55.9	23.3
North Carolina.	1900	209	35	119	55	16.8	56.9	26.3
	1890	—	—	—	—	—	—	—
	1880	—	—	—	—	—	—	—
	1870	—	—	—	—	—	—	—
Ohio.	1900	—	—	—	—	—	—	—
	1890	36	8	28	—	22.2	77.8	—
	1880	135	21	73	41	15.5	54.1	30.4
	1870	—	—	—	—	—	—	—
Pennsylvania.	1900	21,028	5,214	11,565	4,249	24.8	55.0	20.2
	1890	9,380	2,430	5,617	1,293	25.9	60.2	13.9
	1880	3,189	1,000	1,870	819	31.4	58.6	10.0
	1870	986	266	655	15	28.4	70.0	1.6

<sup>1</sup> Included in "all other states."

TABLE 14.—COMPARATIVE SUMMARY OF WAGE-EARNERS, BY STATES: 1870, 1880, 1890, AND 1900—Continued.

STATES.	Year.	NUMBER.				PER CENT.		
		Total.	Men, 16 years and over.	Women, 16 years and over.	Children, under 16 years.	Men, 16 years and over.	Women, 16 years and over.	Children, under 16 years.
Rhode Island.	1900	455	124	326	5	27.3	71.6	1.1
	1890	186	49	107	80	26.4	57.5	16.1
	1880	—	—	—	—	—	—	—
	1870	—	—	—	—	—	—	—
Virginia.	1900	473	144	228	101	30.4	48.2	21.4
	1890	—	—	—	—	—	—	—
	1880	—	—	—	—	—	—	—
	1870	—	—	—	—	—	—	—
All other states.	<sup>2</sup> 1900	1,080	291	758	31	26.9	70.2	2.9
	<sup>3</sup> 1890	678	145	392	141	21.4	57.8	20.8
	<sup>4</sup> 1880	85	16	62	7	18.8	73.0	8.2
	<sup>5</sup> 1870	28	18	10	—	64.8	35.7	—

<sup>1</sup> Included in "all other states."

<sup>2</sup> Includes establishments distributed as follows: Delaware, 2; Maine, 1; Maryland, 2; Michigan, 2; New Hampshire, 2; Utah, 2.

<sup>3</sup> Includes establishments distributed as follows: Maine, 1; Michigan, 1; Missouri, 1; North Carolina, 1; Virginia, 1.

<sup>4</sup> Includes establishments distributed as follows: Kansas, 1; Maine, 1; Missouri, 1; New Hampshire, 1; Rhode Island, 1; Vermont, 1.

<sup>5</sup> Includes establishments distributed as follows: New Hampshire, 1; Vermont, 1.

Table 14 shows that in 1870 children were 20.8 per cent of the total operatives in the United States, and in 1900, 9.8 per cent, a marked decrease. During the same period the percentage of women remained the same, while that of men increased from 26.1 per cent to 37 per cent. This decrease in the percentage of children took place between 1870 and 1890, for since 1890 the percentage has increased slightly. In some states the decrease in the percentage of children is even more marked, ranging from 32.1 per cent to 5 per cent in New Jersey. In contrast to this, the proportion of children in Pennsylvania has increased during the entire period. It has already been remarked that the prosperity of the throwing industry in this state is partly due to the cheap unskilled labor obtainable in the smaller towns, and this increase in the proportion of children employed corroborates the statement.

Table 15 presents the skilled and unskilled operatives, weavers, and spinners, winders, and warpers, including unskilled employees, by states, for 1900.

TABLE 15.—WAGE-EARNERS CLASSIFIED BY OCCUPATION, BY STATES: 1900.

STATES.	TOTAL.			WEAVERS.															SPINNERS, WINDERS, WARPERS, ETC.		
				Total.			Broad silks.			Ribbons.			Velvets and plushes.			All other.					
	Men.	Wom- en.	Child- ren.	Men.	Wom- en.	Child- ren.	Men.	Wom- en.	Child- ren.	Men.	Wom- en.	Child- ren.	Men.	Wom- en.	Child- ren.	Men.	Wom- en.	Child- ren.	Men.	Wom- en.	Child- ren.
United States..	24,206	34,797	6,413	15,360	13,057	667	8,917	9,188	235	3,725	1,467	21	881	510	150	1,837	1,892	261	8,846	21,740	5,746
California .....	24	91	2																24	91	2
Connecticut .....	2,763	3,585	166	1,446	1,149	89	448	441		21	200	7	565	141		412	367	32	1,317	2,433	127
Illinois .....	81	310	21																81	310	21
Massachusetts .....	1,102	1,837	171	311	282	8	301	208			40					10	34	8	791	1,555	163
New Jersey .....	11,279	11,679	1,190	7,992	4,813	116	5,491	3,543	88	1,762	502	3	48	5		691	763	75	3,287	6,861	1,083
New York .....	3,149	4,299	413	2,373	1,497	98	899	324	2	1,014	203	10	109	20		851	450	86	776	2,802	315
North Carolina .....	35	119	55		33			33											35	81	55
Pennsylvania .....	5,214	11,565	4,249	3,020	4,916	401	1,645	3,777	191	835	517	1	149	344	150	341	278	59	2,194	6,649	3,848
Rhode Island .....	124	326	5	104	156		74	156					10			20			20	170	5
Virginia .....	144	228	101		12			12											144	216	101
All other states <sup>1</sup> .	291	758	31	114	189	5	59	184	4	43	5					12		1	177	569	26

<sup>1</sup> Includes the statistics reported by establishments distributed as follows: Delaware, 2; Maine, 1; Maryland, 2; Michigan, 2; New Hampshire, 2; Utah, 2.

Table 15, considered in connection with Tables 6, 8, 9, and 10, presenting the number of looms, spindles, etc., indicates in a measure the relative position of the several states with reference to the production of the various silk products.

#### COUNTIES LEADING IN SILK MANUFACTURE.

Table 16 shows the number of establishments, capital, number of wage-earners, total wages, and value of products in counties manufacturing a product exceeding \$1,000,000 in value.

TABLE 16.—COUNTIES MANUFACTURING PRODUCTS EXCEEDING \$1,000,000 IN VALUE: 1900.

COUNTIES.	Number of establishments.	Capital.	WAGE-EARNERS.		Value of products.
			Average number.	Total wages.	
Connecticut:					
Fairfield .....	5	\$1,207,927	908	\$354,265	\$1,657,954
Hartford .....	3	6,340,705	2,546	1,064,908	4,618,248
New London .....	6	2,180,524	1,181	440,427	2,316,810
Tolland .....	10	593,993	581	162,521	1,360,518
Massachusetts:					
Hampden <sup>1</sup> .....	3	2,768,120	1,196	437,412	2,584,214
Hampshire .....	19	6,581,756	4,703	1,825,996	7,925,620
New Jersey:					
Hudson .....	5	723,766	857	248,509	1,424,837
Morris .....	140	19,192,756	16,150	6,366,334	26,329,792
Passaic .....	5	1,556,930	1,308	410,323	2,174,705
Warren .....					
New York:					
New York .....	50	4,428,148	4,001	1,579,814	6,757,544
Kings .....	10	859,138	653	287,199	1,042,199
Queens .....	6	1,718,848	823	344,330	1,632,651
Pennsylvania:					
Blair <sup>1</sup> .....	14	2,392,256	3,313	523,433	4,185,179
Lackawanna .....	5	524,867	1,996	284,524	1,622,494
Lancaster .....	13	3,321,009	3,614	894,162	4,780,909
Lehigh .....	8	1,116,449	1,207	229,620	1,513,833
Luzerne .....					
Lycoming <sup>1</sup> .....	10	1,978,804	1,947	469,281	3,249,776
Northampton .....	28	3,813,532	2,506	826,456	4,581,794
Northumberland <sup>1</sup> .....					
Philadelphia .....					
Schuylkill <sup>1</sup> .....	9	4,329,675	3,244	861,495	7,264,660
All other counties <sup>2</sup> .....					

<sup>1</sup>Included in "all other counties."

<sup>2</sup>Includes counties having less than 3 establishments, distributed as follows: Massachusetts: Hampden, 2; Pennsylvania: Blair, 1; Lycoming, 2; Northumberland, 2; Schuylkill, 2.

The leading counties in silk manufacture, according to Table 16, are Passaic, Hudson, and Warren, N. J.;

New York, Kings, and Queens counties, which are comprised in the city of Greater New York; Lehigh, Philadelphia, Lackawanna, and Northampton, Pa.; Hartford and New London, Conn.; and Hampshire, Mass.

#### BRAIDS AND TRIMMINGS.

Table 17 presents, by states, the establishments manufacturing silk trimmings and braids, apportioning them among the silk, cotton, and woolen industries and showing the cost of the several textile materials used and the value of the products.

The figures appearing under the headings "Cotton" and "Wool" do not appear elsewhere in the silk tables. To properly present the entire braids and trimmings industry, however, it was necessary to include them.

It should also be noted that this table includes 19 establishments which, although manufacturing braids and trimmings as by-products, produce other silk goods of greater value, and are classified as silk manufactories.

In censuses prior to 1900 all establishments making braids and bindings, fringes and gimps, dress and cloak trimmings, millinery and military trimmings, etc., of which silk was a component material, were classed as silk establishments. At this census the number is limited to those which have reported silk as the material of greatest value. If, as in previous censuses, all establishments using silks were included, the gross product, as shown by Table 17, would be \$7,785,699, and the number of establishments 105. In 1880 the reported production was \$9,306,205; in 1890 it was \$11,325,948. At the present census \$4,059,053 is given as the product of 66 establishments classified as silk, \$1,615,707 as the production of 26 establishments classified as cotton, and \$2,110,939 as the production of 13 establishments classified as woolen.

The principal centers of the trimmings trade are New York city and Philadelphia, and the elimination of so many of these establishments from the silk tabulation in this census especially affects New York.

TABLE 17.—BRAIDS AND TRIMMINGS, WITH COST OF TEXTILE MATERIALS, CLASSIFIED BY PRINCIPAL TEXTILE COMPONENTS, BY STATES: 1900.

STATES.	TOTAL.						SILK.					
	Number of establishments.	Cost of textile materials.				Value of products.	Number of establishments.	Cost of textile materials.				Value of products.
		Total.	Silk.	Cotton.	Wool.			Total.	Silk.	Cotton.	Wool.	
United States.....	105	\$3,083,804	\$1,330,298	\$942,715	\$810,791	\$7,785,699	66	\$1,565,417	\$1,037,891	\$272,503	\$255,023	\$4,059,053
Connecticut.....	5	20,000	18,000	1,500	500	38,685	5	20,000	18,000	1,500	500	38,685
Illinois.....	4	160,210	69,421	40,063	50,726	421,088	4	160,210	69,421	40,063	50,726	421,088
Massachusetts.....	11	261,532	120,912	58,036	82,584	601,425	9	280,078	120,912	26,582	52,584	533,527
New Jersey.....	8	93,416	44,751	42,516	6,149	262,963	6	61,622	44,151	11,668	5,803	162,755
New York.....	61	1,875,774	501,691	394,989	479,094	3,434,980	28	455,625	316,454	84,126	55,045	1,374,805
Pennsylvania.....	21	1,026,777	442,353	399,381	185,043	2,798,278	9	491,787	335,783	102,334	53,670	1,300,413
All other states <sup>1</sup> .....	5	146,095	133,170	6,230	6,695	228,280	5	146,095	133,170	6,230	6,695	228,280

<sup>1</sup>Includes establishments in Alaska and Hawaii.

<sup>1</sup>Includes establishments distributed as follows: California, 2; Michigan, 1; Rhode Island, 2.

## MANUFACTURES.

TABLE 17.—BRAIDS AND TRIMMINGS, WITH COST OF TEXTILE MATERIALS, CLASSIFIED BY PRINCIPAL TEXTILE COMPONENTS, BY STATES: 1900—Continued.

STATES.	COTTON.						WOOL.					
	Number of establishments.	Cost of textile materials.				Value of products.	Number of establishments.	Cost of textile materials.				Value of products.
		Total.	Silk.	Cotton.	Wool.			Total.	Silk.	Cotton.	Wool.	
United States.....	26	\$680,885	\$88,132	\$582,549	\$60,204	\$1,615,707	18	\$837,502	\$204,275	\$137,663	\$495,564	\$2,110,939
Connecticut.....												
Illinois.....												
Massachusetts.....	2	31,454		31,454		67,898						
New Jersey.....	2	31,794	600	30,848	346	100,208						
New York.....	13	319,796	29,182	241,439	49,175	678,017	10	600,853	156,055	69,424	374,874	1,382,653
Pennsylvania.....	9	297,841	58,350	228,808	10,683	769,584	3	237,149	48,220	68,239	120,690	723,281
All other states <sup>1</sup> .....												

<sup>1</sup> Includes establishments distributed as follows: California, 2; Michigan, 1; Rhode Island, 2.

## SKEIN DYEING, PIECE DYEING, PRINTING, AND FINISHING.

The following tables present the statistics of dyeing, printing, and finishing silk goods and other textile yarns and silk-mixed fabrics, including both the work

done in silk manufacturing establishments and that done in establishments engaged exclusively in dyeing, printing, and finishing. Table 18 shows the statistics of skein dyeing; Table 19, piece dyeing; Table 20, printing; and Table 21, finishing.

TABLE 18.—SKEIN DYEING IN SILK MILLS AND DYEING PLANTS, FOR SILK MANUFACTURE, BY STATES: 1900.

STATES.	Number of establishments.	Amounts charged for work done in dyeing plants.	Aggregate.	SILK.						OTHER YARNS.					
				Total.	Reeled.		Spun.		Total.	Cotton.		Wool.			
					Colors.	Black.	Colors.	Black.		Colors.	Black.	Colors.	Black.		
United States . . .	95	-----	Pounds. 12, 175, 988	Pounds. 9, 876, 477	Pounds. 5, 551, 313	Pounds. 3, 393, 871	Pounds. 621, 043	Pounds. 309, 250	Pounds. 2, 300, 511	Pounds. 1, 067, 589	Pounds. 1, 049, 215	Pounds. 100, 658	Pounds. 83, 049		
Total in silk mills . . .	58	-----	5, 952, 391	3, 936, 970	1, 793, 955	1, 541, 785	425, 216	176, 014	2, 015, 421	925, 255	981, 559	52, 658	55, 949		
Total in dyeing plants.	37	\$4, 305, 809	6, 223, 697	5, 938, 507	3, 757, 358	1, 852, 086	195, 827	133, 236	285, 090	142, 334	67, 656	48, 000	27, 100		
Connecticut:															
Silk mills . . . . .	17	-----	1, 787, 934	1, 223, 435	511, 298	445, 999	203, 181	62, 957	564, 499	113, 830	450, 669	-----	-----		
Massachusetts:															
Silk mills . . . . .	8	-----	1, 150, 790	707, 432	263, 700	850, 083	71, 151	22, 498	443, 358	122, 109	224, 642	45, 658	50, 949		
New Jersey:															
Silk mills . . . . .	13	-----	1, 207, 345	1, 093, 655	838, 582	257, 844	2, 139	90	108, 690	25, 640	83, 050	-----	-----		
Dyeing plants. . . . .	22	3, 927, 829	5, 064, 504	5, 057, 639	3, 175, 932	1, 661, 078	132, 286	88, 343	6, 865	3, 334	3, 031	-----	-----		
New York:															
Silk mills . . . . .	10	-----	483, 921	188, 124	98, 910	54, 431	26, 783	8, 000	295, 797	261, 322	25, 475	5, 000	4, 000		
Dyeing plants. . . . .	9	160, 063	669, 685	391, 460	277, 869	72, 591	28, 375	12, 625	278, 225	138, 500	64, 625	48, 000	27, 100		
Pennsylvania:															
Silk mills . . . . .	5	-----	888, 085	285, 958	29, 320	68, 023	110, 100	78, 515	597, 077	400, 354	196, 728	-----	-----		
Dyeing plants. . . . .	5	215, 292	484, 158	484, 158	300, 957	115, 817	35, 141	32, 243	-----	-----	-----	-----	-----		
All other states: <sup>1</sup>															
Silk mills . . . . .	7	-----	439, 866	439, 866	52, 145	365, 405	11, 862	3, 954	6, 000	2, 000	1, 000	2, 000	1, 000		
Dyeing plants. . . . .	1	2, 625	5, 250	5, 250	2, 600	2, 600	25	25	-----	-----	-----	-----	-----		

<sup>1</sup> Includes establishments distributed as follows: California, 2; Illinois, 1; Maine, 1; Michigan, 2; Rhode Island, 1; Virginia, 1.

TABLE 19.—PIECE DYEING IN SILK MILLS AND DYEING PLANTS, FOR SILK MANUFACTURE, BY STATES: 1900.

STATES.	Number of establishments.	Amounts charged for work done in dyeing plants.	Total.	All silk.	Silk and spun.	Silk and cotton.	Silk and wool.
United States.....	23		Yards. 40,484,911	Yards. 21,150,585	Yards. 2,044,630	Yards. 17,238,471	Yards. 61,225
Total in silk mills.....	10		4,464,528	1,224,829	459,693	2,780,156	850
Total in dyeing plants.....	13	\$843,294	36,020,383	19,925,756	1,584,937	14,458,315	50,876
New Jersey:							
Silk mills.....	4		1,629,181	1,046,938	110,000	471,893	850
Dyeing plants.....	8	773,229	33,679,486	19,415,550	1,580,625	12,636,436	46,376
New York:							
Silk mills.....	2		538,810			538,810	
Dyeing plants.....	4	75,498	2,323,647	497,768		1,821,879	4,000
All other states: <sup>1</sup>							
Silk mills.....	4		2,297,037	177,391	349,693	1,769,953	
Dyeing plants.....	1	567	17,250	12,938	4,312		

<sup>1</sup> Includes establishments distributed as follows: Connecticut, 2; Illinois, 1; Pennsylvania, 2.

TABLE 20.—SILK PRINTING IN SILK MILLS AND SILK-PRINTING PLANTS, FOR SILK MANUFACTURE, BY STATES: 1900.

STATES.	Number of establishments.	Amounts charged for work done in silk-printing plants.	Total.	Printed in warps.	PRINTED IN PIECES.		
					Silk.	Silk and spun.	Silk and cotton.
United States.....	12		Yards. 10,239,606	Yards. 329,678	Yards. 4,965,893	Yards. 2,776,689	Yards. 2,168,846
Total in silk mills.....	4		3,084,811	16,355	846,704	1,684,524	537,228
Total in silk-printing plants.....	8	\$419,870	7,154,795	313,323	4,119,189	1,091,165	1,631,118
New Jersey:							
Silk mills.....	2		76,586	7,500	69,086		
Silk-printing plants.....	4	354,148	5,702,500	313,323	3,723,543	1,055,165	610,469
All other states: <sup>1</sup>							
Silk mills.....	2		3,008,225	8,865	777,618	1,684,524	537,228
Silk-printing plants.....	4	65,722	1,452,295		395,046	86,000	1,020,649

<sup>1</sup> Includes establishments distributed as follows: Connecticut, 2; Massachusetts, 1; New York, 2; Pennsylvania, 1.

TABLE 21.—SILK FINISHING IN SILK MILLS AND SILK-FINISHING PLANTS, FOR SILK MANUFACTURE, BY STATES: 1900.

STATES.	Number of establishments.	Amounts charged for work done.	Total.	Total.	Silk.	Silk and cotton.	Silk and wool.
United States.....	54		Yards. 193,463,540	Pieces. 2,223,346	Pieces. 1,462,594	Pieces. 765,569	Pieces. 183
Total in silk mills.....	38		44,616,500	782,062	472,584	289,362	116
Total in finishing plants.....	16	\$981,740	38,847,040	1,466,284	990,010	476,207	67
Connecticut:							
Silk mills.....	7		13,303,510	240,762	71,986	168,776	
New Jersey:							
Silk mills.....	15		17,845,980	297,949	268,128	29,767	54
Silk-finishing plants.....	6	449,021	41,706,480	680,608	453,192	227,416	
New York:							
Silk mills.....	5		4,937,520	82,292	67,240	15,052	
Silk-finishing plants.....	9	532,436	47,123,280	785,838	536,530	248,791	67
Pennsylvania:							
Silk mills.....	7		7,386,140	122,269	57,161	65,046	62
All other states: <sup>1</sup>							
Silk mills.....	4		1,127,400	18,790	8,069	10,721	
Silk-finishing plants.....	1	288	17,280		288		

<sup>1</sup> Includes establishments distributed as follows: California, 1; Illinois, 1; Maine, 1; Rhode Island, 1; Utah, 1.

Owing to its importance as a distinct industry, the dyeing and finishing of textiles will be presented in a separate report at this census, as it was at the census of 1890. As the various operations of skein dyeing, piece dyeing, printing, and finishing are wholly or partly done in many silk manufacturing plants, a tabulation has been made, covering not only the returns from the independent or professional dye works, print works, and finishing plants, but also those from silk manufacturing plants, which, when combined, possess special interest for silk manufacturers, and, considered in conjunction with other tables presented in this report, embrace all the elements of the silk industry in the United States.

The tables present the number of establishments engaged in the different classes of work, the quantity of goods handled, and the amount charged for the work done by dyeing, printing, and finishing establishments. Skein dyeing embraces all the yarns dyed for the silk industry in the census year. Piece dyeing, printing, and finishing embrace broad goods only, and do not include sewing silk, veilings, veils, etc. Ribbons are not

included, as a given number of yards or pieces of ribbon, without designating the width, has no significance. It is to be understood, therefore, that the returns for piece dyeing, printing, and finishing deal only with plain and fancy broad silks, Jacquards, piece-dyed weaves, velvets, plushes, tapestries, and upholstery silks.

Data as to capital invested, operatives employed, wages paid, cost of materials used, and miscellaneous expenses of the independent or professional plants will be found in the separate report on "Dyeing and Finishing of Textiles." The principal object of the foregoing tables is to show the quantities of silk and other textile yarns and silk-mixed fabrics dyed, printed, and finished by and for silk manufacturers.

**SKELN DYEING.**—Table 18 shows that there were 8,945,184 pounds of reeled silk, skein dyed in colors and black. The total consumption of reeled silk, including fringe and floss silk, in the census year was 9,828,754 pounds. The balance, 883,570 pounds, represents, with the exceptions noted below, goods woven in the grey and piece dyed.

There were 930,293 pounds of spun silk, skein dyed

in colors and black. The total consumption of spun silk was 1,774,124 pounds. The balance, 843,831 pounds, practically represents goods woven in the grey and piece dyed.

The returns show 2,116,804 pounds of cotton, skein dyed in colors and black. The total consumption of cotton yarns by the silk industry was 6,664,069 pounds. The balance, 4,547,265 pounds, largely represents piece-dyed mixed goods.

The returns show 183,707 pounds of woolen yarns, dyed in colors and black. The total consumption of wool and mohair yarns was 344,271 pounds. The balance, 160,564 pounds, represents piece-dyed mixed goods. "Other yarns" reported as raw materials in the census returns amount to 108,388 pounds.

The marked tendency in recent years to the production of silk-mixed goods, comprising silk, cotton, and wool, and the interchange of the several fibers in the textile industries, reference to which has been made elsewhere in this report, is illustrated by the returns tabulated. In the cotton textile industry the consumption of raw-silk and spun-silk yarns has increased from 51,434 pounds in 1890 to 560,680 pounds in 1900. In the wool textile industry and its several branches the consumption of such materials has increased from 255,494 pounds to 323,884 pounds, and in the hosiery and knit-goods industry an increase from 120,341 pounds in 1890 to 266,247 pounds in 1900 is reported. A considerable quantity of skein-dyed silk yarn is now used as warps by the cotton and woolen manufacturers of New England. The great development of electricity in the United States has utilized a very considerable quantity of skein-dyed silk yarns in covering electric wires.

**PIECE DYEING, PRINTING, AND FINISHING.**—In addition to the piece dyeing of domestic goods, very large quantities of Habutai silks from Japan figure in the returns as dyed and finished in the United States; also cotton-back satins in considerable quantities from Switzerland, Germany, and Lyon, France.

The redyeing and finishing in the United States of dress silks imported in colors, and later turned to other uses in the millinery and trimmings trade, and the re-finishing of imported taffetas to suit changed conditions of demand and use, help to account for the apparent large excess of yardage piece dyed and finished by professional plants over the figures of strictly domestic production of piece-dyed goods.

Another consideration is the probable fact that the production of double-width taffetas, 18-36 inches to 27-54 inches wide, in double pieces, may have been returned singly by the manufacturer and doubly by the dyer and finisher.

**SILK PRINTING.**—What has been said respecting the piece dyeing of imported goods equally applies to the printing branch of the industry. Foreign-made goods

imported in the grey are now printed here as successfully as in Europe.

The item "Amount charged for work done" in the tables indicates payments to the independent or professional establishments, as follows:

Skein dyeing.....	\$4,305,809
Piece dyeing.....	849,294
Printing.....	419,870
Finishing.....	981,740
Total.....	6,556,713

The proportion of this amount applicable to the silk manufacturers exclusively is included in the item "Contract work," under miscellaneous expenses, in the tables included in this report. From the foregoing description of the methods of the business it is plainly evident that a part of these charges was for account of importers of foreign silks in the piece, and of the domestic users of skein-dyed yarns in other industries. The reported expense of dyeing, finishing, and printing is not the total value of the work performed in these branches of the industry, but represents only the amount charged by the independent or professional establishments, and does not include the value of such work done by silk manufacturers. As one price per yard is charged by a number of concerns which do both piece dyeing and finishing, the apportionment of the returns between these processes was estimated. The principal object of the tabulation was, as stated, to report quantities under the designated headings. The price charged for "finishing" 88,829,760 yards by 15 professional establishments in New York and New Jersey is reported at \$981,457. The current price for finishing all silk broad goods is 1 cent per yard, and mixed goods 2½ cents per yard. Other prices current in this branch of the industry are as follows: Piece dyeing (including finishing), all silk, 2½ to 3 cents per yard, and mixed goods, double the price charged for all silk goods. Printing (including finishing), 5 to 7 cents per yard, and warp printing, 7 to 12 cents per yard. In broad goods the average yardage per piece is 60 yards. Some pieces measure only 30 yards, but the great bulk of the production is in 50-yard and 60-yard pieces, while all the foreign cotton-back satins dyed in the United States average 75 yards per piece.

#### CAPACITY OF AMERICAN MILLS.

There are now in the United States silk manufacturers who turn out over 100,000 pieces of 60 yards each per year, more than half being taffeta weaves; yarn dyers deliver uncharged silk in two days, black and colored organzine and tram, weighted 70 to 80 per cent, in five to six days and heavy charged silk in eight to fourteen days, it being possible to arrange for shorter deliveries when necessary. One yarn dyer is able to turn out and ship 4,500 pounds black and 3,000 pounds

colored daily. Finishing plants are now able to turn out 2,000 pieces per day. Formerly all piece-dyed goods made abroad were dyed in Europe and finished there, but since 1897 the piece-dyeing and printing branches in the United States have greatly enlarged their facilities, and now dye and print not only large quantities of domestic raw goods, but also some imported goods. The domestic production of piece-dyed goods as shown by the census returns is presented in the following statement:

	Quantity.	Value.
	Yards.	
All silk .....	7,331,501	\$3,342,167
Silk mixed .....	8,553,884	2,808,506
Total .....	15,885,385	6,210,673

During the last ten years every weave, article, and quality known to mechanical weaving, or which, through alterations on machinery or simplification in manufacturing, could be put in reach of power-loom weaving, have been manufactured in the United States. With the exception only of a few Lyon specialties, which for different reasons are not suitable for mechanical weaving, every style which the silk industry brings to the market is manufactured in the silk mill of to-day, viz:

Pure silk goods, silk and wool, and silk and cotton mixtures and spun-silk fabrics.

Warp prints of all descriptions and piece-dyed and printed goods in every variety.

Plain silks of all weaves; "fancies," from the simplest to the most complicated styles, and Jacquards, brochés, etc.

Light-weight goods, as chiffons, mousselines, marcelines, and the heaviest curtain and upholstery silks.

All the products of the various mills, including the great variety of dress silks, linings, and trimmings; goods for the cloak, necktie, and millinery trades; and silks for the manufacturers of silk waists, skirts, umbrellas, and parasols—all these give most convincing testimony to the many-sidedness of the American weaving mill. That the industry has in a comparatively short space of time achieved such good results may be attributed to the enterprise and intelligence of its leading men, who readily experiment with new and untried methods regardless of trouble and expense, even if there is only small hope of success.

The following is a statement in round numbers of the estimated value of the silk production of Europe and the United States in 1900, by countries, with the percentage that the production of each country forms of the total production. This statement includes only the value of finished goods, and not that of partially manufactured products. The several countries are presented in the order of their importance in the manufacture.

# SILK PRODUCTION OF EUROPE AND THE UNITED STATES: 1900.<sup>1</sup>

	Value of annual production.	Per cent of production.
France .....	\$122,000,000	80.9
United States .....	92,000,000	23.3
Germany .....	73,000,000	18.5
Switzerland .....	38,000,000	9.6
Russia (in Europe) .....	21,000,000	5.3
Austria .....	17,000,000	4.3
Great Britain .....	15,000,000	3.8
Italy .....	13,000,000	3.3
Spain and Portugal .....	4,000,000	1.0
Total .....	895,000,000	100.0

<sup>1</sup> International Universal Exposition at Paris: Report of United States Commissioner Peck: Report on Silk Fabrics, contributed by Franklin Allen, juror of the United States in the silk section (class 83). Government Printing Office, Washington, D. C., 1901, page 566.

## RELATIVE POSITION OF FRANCE AND THE UNITED STATES.

The annual production of France is claimed to be \$122,000,000, distributed as follows:<sup>1</sup>

Lyon .....	\$80,000,000
St. Etienne (ribbons) .....	20,000,000
Paris .....	6,000,000
Calais, Le Nord, etc. ....	16,000,000

The Lyon manufactures, therefore, constitute nearly two-thirds of the production of France; they include, however, a considerable quantity of silk and cotton mixture (*mélange*), the manufacture of which has been greatly developed at that city. The total is further swollen by including the foulards imported from Japan and China, which are valued at about 15,000,000 francs annually, and, being printed in Lyon, are returned as Lyon manufactures with a value of 20,000,000 francs. Strictly speaking, the value of the silk woven in another country should not be included in any correct statement of the gross volume of the local production. France now consumes somewhat less raw silk than the United States, her consumption being estimated by the Lyon Chamber of Commerce at 9,000,000 pounds, while that of the United States during the census year was 9,760,770 pounds. New York city, the only raw-silk market in America, now holds the first place among the raw-silk markets of the world, Shanghai alone excepted.

More raw silk is sold annually in New York than is consumed in France, which is the largest raw-silk consuming country of Europe. As to the selling value of the product, the United States ranks second, being surpassed by France, which still dominates, without serious competition, the world's markets in church ornaments and chasubles, and Parisian specialties representing the supremacy of Paris fashions for women's wear. Many

<sup>1</sup> From charts exhibited at the Paris Exposition of 1900, indicating the annual production of the principal silk manufacturing countries, prepared by Mr. Marius Morand, secretary of the Chamber of Commerce of Lyon.



of these are made on handlooms, the quantities required in different patterns and styles being so limited that their production in the United States by powerloom weaving would not be profitable.

#### WORLD'S RAW-SILK SUPPLY.

The quantity, character, and mercantile condition of the raw silk received from the several sources of supply are prime factors in the industry. The price of raw material also has an important influence. Wide variations in price are a great disadvantage. When, on the other hand, the maximum and minimum prices steadily maintain a narrow range the industry is benefited.

Likewise the stimulation of raw-silk production through the development of new centers of industrial activity in silk manufacture, as in the United States, is a general benefit. Steadier and more moderate prices follow increased production, as a rule, and these in time encourage the use of silk in ever-widening channels; the cost of raw silk to the consumer is thereby also greatly diminished. For instance, it is not so many years since the buyers of cocoons in Europe relied upon and received a profit of 10 to 20 francs a kilo for the

reeled silk, or 87½ cents to \$1.75 a pound, and in the United States, in the earlier days of the industry, the importers of raw silk confidently counted upon an equal profit. The manufacturers of the United States naturally began to import on their own account, and as a result of their competition with the importers, the difference between the price here and the price abroad was reduced to less than \$1 per pound. It is sufficient to say that to-day the competition is so healthful, owing to the increasing rivalry to which the United States has so largely contributed, that a small difference in the price per pound often determines whether the purchase is effected here or abroad. In "thrown silk" the contrast is quite as great. Many men now living recall the time when the silk manufacturers paid as high as \$4.50 a pound for the process of "throwing" organzine silk. Now the common price paid is from 60 to 75 cents per pound, depending upon the condition in which the silk is reeled where produced.

Table 22 presents the total raw-silk production of the world, showing the production in detail of the several sources of supply, at five-year periods, from 1870 to 1900, inclusive, the weight being given in kilograms, and in the aggregate reduced to pounds.

TABLE 22.—WORLD'S PRODUCTION OF RAW SILK, IN KILOGRAMS AND IN POUNDS.

COUNTRIES.	1900	1895	1890	1885	1880 <sup>1</sup>	1875 <sup>1</sup>	1870 <sup>2</sup>
Europe: Total .....	Kilograms. 4,277,000	Kilograms. 4,761,000	Kilograms. 3,330,000	Kilograms. 3,320,000	Kilograms. 3,608,000	Kilograms. 3,456,800	Kilograms. 3,817,000
Italy .....	3,363,000	3,509,000	2,880,000	2,810,000	.....	.....	3,180,000
France .....	560,000	890,000	618,000	483,000	.....	.....	687,000
Austria .....	276,000	265,000	267,000	142,000	.....	.....	.....
Spain .....	78,000	90,000	65,000	85,000	.....	.....	.....
Levant: Total .....	1,760,000	1,244,000	707,000	730,000	727,000	760,400	.....
Asia: Total production exported .....	10,780,000	8,027,000	6,783,000	5,676,000	6,242,000	5,899,700	3,589,400
China, Shanghai <sup>3</sup> .....	4,756,000	3,358,000	2,914,000	2,095,000	.....	.....	1,080,400
China, Canton .....	2,253,000	1,394,000	1,529,000	774,000	.....	.....	1,018,000
Japan, Yokohama .....	3,371,000	3,076,000	2,130,000	1,346,000	.....	.....	423,000
India, Calcutta .....	350,000	199,000	210,000	861,000	.....	.....	468,000
Aggregate, kilograms .....	16,767,000	14,082,000	11,820,000	9,926,000	10,577,000	9,616,900	7,406,400
Aggregate, reduced to pounds .....	36,964,528	30,934,947	24,956,072	21,882,860	23,318,054	21,201,418	16,328,149

<sup>1</sup> Estimated from best information obtainable.

<sup>2</sup> Trustworthy figures of the world's supply prior to 1870 can not be given.

<sup>3</sup> Tussah silk not included.

The following statement shows the quantity and invoice value of raw silk imported into the United States in each decennial year from 1860 to 1900, inclusive, and the average cost per pound, taken from the "Reports of the Bureau of Statistics of the United States Treasury Department:"

YEAR.	Pounds.	Invoice value.	Average cost per pound.
1860 .....	297,877	\$1,340,676	\$4.50
1870 .....	583,589	3,017,958	5.17
1880 .....	2,562,236	12,024,699	4.69
1890 .....	5,943,860	28,285,099	5.92
1900 .....	11,259,310	44,649,672	3.96

A rise of \$1 per pound in the price to a country using, as the United States now does, about 10,000,000 pounds

annually, means, therefore, an increase of about \$10,000,000 in the cost of raw material, and must represent that much financial loss to the manufacturers, unless recouped from the consumer.

There have been great variations in the price meanwhile, as is shown by the following quotations:

In 1868 prices of raw silk averaged \$8.43 per pound, the highest prices of Blue Elephant Tsatlee, Best Italian No. 1, and Japan Maybash No. 2 averaging \$9.29 per pound.

In 1876 the highest prices of the same silks averaged \$9.10 per pound.

In 1894 the lowest prices prevailed, the lowest prices of the same silks averaging \$2.94 per pound. Canton Filature Best No. 2 was quoted at \$2.61 per pound. The world's supply in that year was 31,860,879 pounds.



The recognition by silk reelers of the standards of merit required by the most progressive silk manufacturers is also of great commercial and industrial importance. China and Japan are the two largest contributors to the world's supply from their surplus production. As a result of the close attention given by the progressive Japanese to the requirements of silk manufacturers in the United States, a much larger proportion of the raw silk consumed in the United States is supplied by Japan than by any other country. The percentage of raw silk that each principal producing country contributes to the world's supply, according to the statistics for 1900, shown in Table 22, also the percentage that each country contributes to the consumption of raw silk in the United States, as derived from the import statistics of the Treasury Department for the same period, are shown in the following statement:

COUNTRIES.	Per cent of contribution to world's supply.	Per cent of American consumption.
China .....	41.8	34.3
Japan .....	20.1	42.3
Italy .....	20.1	19.7
France .....	3.8	3.2
All other countries .....	14.7	0.5
	100.0	100.0

The production of raw silk in China is an absolutely unknown quantity. When prices in Europe and America are relatively high the supply increases surprisingly. When prices are normal or low the supply decreases. It is manifest, however, that by closer attention to the United States market, China could greatly extend its raw-silk trade with this country. It is to be hoped that an effort will be successfully made to overcome the commercial indifference of Chinese merchants to the trade wants of their customers. The vast amount of capital invested and the large number of operatives employed in the silk industry throughout the world should be, it would seem, a commercial stim-

ulus to China, the greatest producer of raw silk, to perfect its silk-reeling processes by the application of skilled labor, so as to secure a much larger share than now of the profits of a business in which the country has so many natural advantages. The profit of her reelers would be greater if the output of her filatures were better adapted to the requirements of foreign consumers.

In Japan the domestic consumption of raw silk is usually estimated at about 50 per cent of the production, the remainder being exported.

In Italy the domestic consumption is probably about 15 per cent of the production, the remaining 85 per cent being exported to supply the silk manufacturers of France, Switzerland, Germany, Russia, England, and the United States.

#### DETAILED STATISTICS OF SILK MANUFACTURE.

The detailed statistics for the industry as reported are shown in Table 23 at the end of the report. This table presents separate totals for each state in which there were 3 or more establishments, and groups the statistics for other states so as not to disclose the operations of individual establishments. The establishments are classified according to the character of the ownership, which shows that 132 were owned by individuals, 154 by partnerships, and 197 by corporations. The employees are segregated so as to show for salaried officers and wage-earners, separately, the number and salaries or wages of men, women, and children, respectively, and also the average number of wage-earners employed during each month of the year. Separate totals of the different materials and products are shown. The number of machines, spindles, looms, etc., are presented, and the quantities of goods dyed, finished, and printed by silk manufacturing establishments performing such work; also the number of engines, water wheels, electric motors, and other power in use, with their horsepower. The 483 establishments are grouped according to the number of employees in each.

## HISTORICAL AND DESCRIPTIVE.

The silk industry has reached the point where its future seems assured as a permanent branch of the textile industries of the United States, and, judged by the commercial effect that its establishment in this country has had upon improving and cheapening the processes of manufacture, and in lowering the cost of silk goods, every American can take pride in this industrial and commercial achievement.

The silk maker's art in the United States was transplanted from Europe, but, like many another transplanted art, it has taken such a firm hold on the business activities of the country that it has become thoroughly domesticated.

The beginning of the industry on this continent dates back to the Spanish conquest of Mexico in the Sixteenth century. At the beginning of the Seventeenth century King James I of England lent his royal favor by bestowing upon the London Company "plenty of silkworms, seed of his own store being the best," and by this company the "seed" was sent out to Jamestown, Va., as one of the means of helping the early colonists.<sup>1</sup>

Simultaneously with this effort of King James to develop silk culture in England and America, Henry of Navarre (Henry IV of France) brought 14,000 mulberry trees from Italy, which were planted in the royal gardens of France.<sup>2</sup> Silkworm eggs were also procured from Italy, and other measures were taken by this patriotic king to encourage the nascent industry in France. It is interesting now to note that the prime minister of the King, the great Duke Sully, looked coldly upon this enterprise, arguing that "Luxury should be repressed, most certainly not encouraged." But the King had been converted to the idea by Oliver de Serres, whom the French honor as "the father of agriculture," and was not moved by the arguments of the minister. Sully, referring to this matter in his *Memoirs*, 1603, says: "I could not persuade him. 'Are these,' the King said to me, 'the good reasons you have to offer? I would much rather fight the King of Spain in three pitched battles than all those gentlemen of the robe, of the inkstand, and of the city, beside their wives and daughters, whom you will bring down upon me with your fantastic regulations.'"<sup>3</sup>

The industry, thus encouraged in France three hundred years ago, made notable progress both as to culture and manufacture. In America, notwithstanding the efforts of essayists and the premiums and bounties offered by colonial assemblies and by the English Parliament, the planters could not be stirred to much activity in raising silk. Silk culture by the colonists

would evidently have been a good thing for British manufacturers, but the record of history is that it had a fitful, uncertain existence. From 1750 to 1772, the period of its greatest activity before the Revolution, the export of raw silk averaged only 500 pounds per annum and rarely exceeded 1,000 pounds in a single year.<sup>4</sup>

For many years after the War of the Revolution premiums and bounties for planting mulberry trees and for producing raw silk were authorized by a number of states. In New England, New York, New Jersey, and Pennsylvania, especially, great interest was taken in the subject. Dr. Ezra Stiles, president of Yale College, at New Haven, Conn., and Dr. Benjamin Franklin, of Philadelphia, were among the most notable promoters of the movement. In December, 1825, the subject of silk culture began to receive national attention, being brought before Congress by a resolution of inquiry introduced by Mr. Miner, of Pennsylvania, and referred to the Committee on Agriculture. This committee reported favorably in the spring of 1826, the report including a resolution directing the Secretary of the Treasury to cause to be prepared a well-digested manual on the growth and manufacture of silk. Inquiries for information on the subject were sent out by the Secretary, Mr. Richard Rush, in 1826; and from the replies and other material a manual was compiled entitled "Letter from the Secretary of the Treasury," dated February 7, 1828. Six thousand copies were printed by order of Congress.<sup>5</sup> This document became known as the "Rush Letter;" it contains 220 pages, besides illustrations of machinery, and is a carefully executed work.

This favorable action and the publication by Congress at the same session, and at many subsequent sessions, of other documents relating to silk culture, together with the serious consideration of the subject by the Congressional Committee on Manufactures, as well as by the Committee on Agriculture, enlisted general attention. Sericulture gained the public ear. Legislatures of several states passed bills for its encouragement, and a most determined effort was made to place silk growing on a paying basis. For ten years all went well. Silk conventions were held in Maryland, New Jersey, New York, and Connecticut, between December, 1838, and April, 1839, and there were many other gatherings devoted to the cause. What soon proved to be a disturbing element had, however, been introduced by an effort to supplant the white mulberry, *Morus alba*, on the leaves of which the worms had been fed, by the so-called Chinese mulberry, the *Morus multicaulis*, on account of the superior qualities claimed

<sup>1</sup> Silk Industry, Paris Exposition, 1867, by Hon. Elliott C. Cowdin, United States commissioner, Washington, D. C., 1868, page 7. Purchas, *His Pilgrimes*, Vol. IV, page 1777.

<sup>2</sup> Tenth Census of the United States, Report on Silk Manufacture, by William C. Wyckoff, special agent, page 1.

<sup>3</sup> *Memoirs of Sully*, London, 1778, Vol. V, pages 150-159.

<sup>4</sup> Tenth Census of the United States, Report on Silk Manufacture, by William C. Wyckoff, special agent, page 10.

<sup>5</sup> H. R. Doc. 158, Twentieth Congress, first session.

for it. All the agricultural literature in the country soon became suffused with the descriptions of this wonderful tree. Speculation began, and prices of trees advanced far beyond their value. Large as were the anticipated profits of producing silk, they were insignificant as compared with the fortunes to be made by raising the new mulberry tree. Orchards of it were planted in every state in the Union. With increasing velocity the tide of speculation rose. Trees became of greater value than the silk which they could by any possibility be the means of producing. One writer says: "Prices ranged for trees produced from one bud or cutting and of a single season's growth, from 5 cents to 10, 20, 50 cents, \$1, and in some instances \$5 apiece."<sup>1</sup>

The list of stock companies formed for raising and manufacturing silk at this period is very long, but as Mr. William C. Wyckoff, writing the report on Silk Manufactures for the Tenth Census of the United States (1880), says of them, "Their lives were very short." The bubble burst in 1839. Silk culturists and manufacturers had everywhere been swept into the rising current. As for the tree speculators, it is related that one who had been among the most successful sent an agent to France with \$80,000 to buy trees and cuttings in the winter of 1838-39. Before the whole of his purchase had arrived the crisis had come. The nurseryman had failed for so large a sum that he could never reckon up his indebtedness, and the next spring his *Multicaulis* trees were offered in vain to the neighboring farmers at \$1 a hundred for pea brush.<sup>2</sup>

Notwithstanding the favorable climatic conditions both in France and the United States for the growth of mulberry trees and the rearing of silk worms and cocoons, silk culture has dwindled in both countries, because more remunerative occupations are afforded by other lines of industry. Although in France the raisers of cocoons and reelers of silk are protected by a considerable bounty, payable by the French Government to her citizens as against the Italians, that country produces less than 4 per cent of the world's supply of raw silk. Her silk manufacturers are well content to purchase, as America does, the raw silk from Italy, Japan, and China, in all of which countries the ruling rates of wages are much less than in France and very much less than in the United States. Both France and the United States pursue the same fiscal policy of admitting raw silk free of duty and therefore both are on a par in this respect. Under this policy France produces only a small portion of the raw silk needed for its silk manufactures, while in the United States silk culture, which was introduced simultaneously to its stimulation in France three hundred years ago, practically ceased to exist in 1844, although since that date sporadic attempts to revive it have been made in Cali-

fornia and more recently in Kansas and at Salt Lake City, Utah.

Meanwhile, step by step, but slowly, improvements have been effected here in the manufacture of silk goods. The making of sewing silk became a household industry in New England, at first by hand, and later by machinery. The manufacture of silk trimmings of various kinds was commenced in 1815 at Philadelphia, and ribbons in 1829, at Baltimore.<sup>3</sup> The invention of the sewing machine in the United States developed a demand for "machine twist," a silk thread specially suited for use on sewing machines and first applied to that purpose in February, 1852. These goods, together with fringes, gimps, and tassels, and a few ribbons, continued to be the principal products of the silk industry in the United States until the outbreak of the Civil War.

One of the foremost silk manufacturers of the United States, the first vice-president of the Silk Association of America, in a recently published treatise on the silk textile industry, correctly sets forth the reasons for its powerful development in recent years, as follows:<sup>4</sup>

As reasons for the rapid as well as powerful development of the United States silk industry, notwithstanding the competition of well-introduced imported goods and the splendid organization of the importers, and in spite of the mistrust which was felt by consumers for a long time against the domestic goods, we find:

1. The natural capability of the American merchant and manufacturer, his common sense, enterprise, and self-confidence.
2. The capital which is always ready to support enterprise in this country in the form of extensive and liberal credits.
3. The support which is given all these undertakings by the people, by the city and state governments in form of tax privileges, donations of lots, putting up mill buildings, and renting same at a low rate of interest; even in some cases by subscribing a certain amount of the necessary working capital.
4. The intellectuality of the American technician, who through his inventions of time-saving machinery, which are simply constructed and easy to handle, is, perhaps, unequaled. The operative also is moderate and his common sense makes him especially fit for the manufacturing business.
5. The easy intercourse between manufacturer and dealer which enables the first to get fully and promptly acquainted with the needs and wants of the consumer.

The last point can not be too strongly emphasized. In a large sense the American manufacturer is his own merchant and distributor. He is in close touch with the dealers and retailers, knows what they want, and manufactures accordingly. Silk manufacturers abroad (especially in France and Switzerland) are fully aware of this requisite to successful trade. The closer silk manufacturers get to the consumer, the greater the success they achieve. When to this genius for trade is added the unconquerable energy and persevering inventiveness of the silk manufacturer in the United States; the superior intelligence and push of the operatives, both skilled and unskilled; the perfection of methods

<sup>1</sup> The Silk Industry of the United States from 1766 to 1874, by A. T. Lilly, Florence, Mass., 1875, page 8.

<sup>2</sup> The Silk Industry of America, by L. P. Brockett, M. D., New York, 1876, page 40.

<sup>3</sup> Manual of American Silk Trade, 1873, by Franklin Allen, secretary of the Silk Association of America, New York, pages 22-23.

<sup>4</sup> Twenty-ninth Annual Report of the Silk Association of America, New York, March 26, 1891, pages 48 and 49.

by "throwsters" in rapidity, certainty, and economy; the simplicity of high-speed looms in weaving; quick deliveries and perfectly satisfactory work in yarn dyeing, piece dyeing, finishing, and printing; and the ready adoption, at whatever cost, of every improvement known anywhere in silk manufacturing, the general excellence of the product manufactured in the United States, and its consequent success, is accounted for.

In England the silk industry has suffered a great decline since 1860. In recent years leading manufacturers there have emphasized the importance of specially organized technical schools for the education of artisans and for teaching drawing and designing to selected pupils. In the United States every large silk plant is a school of design, a teacher of scientific and technical education. All such plants have a corps of skillful designers, and many are in touch with artists and establishments abroad, whence is derived the latest information concerning novelties in all lines of manufacture. Skillful chemists are likewise attached to these plants, and, in fact, all processes of the industry proceed simultaneously under one management. To the clerk and workman is given a certain independence and freedom of action, no restraint being put upon his enterprise. Fulfillment of his duty is all that is required. That such a system improves the working methods and produces better results is plainly evident from the census figures.

#### IMPROVEMENTS IN THROWING AND WEAVING MACHINERY.

**THROWING.**—The past decade has not been marked by many changes in the throwing of silk. Efforts have been concentrated upon increasing labor efficiency, in saving waste, and similar economies, demanded by the constantly decreasing scale of prices. Larger mills have been built and equipped with the most modern appliances for heating, lighting, power, and manufacturing; smaller mills have been consolidated into larger establishments, thus lessening the general expenses; antiquated and worn-out equipments have been replaced by modern and more economical machines, the constant effort being to reduce cost of production. The success achieved has not, however, kept pace with the reduction in price of the product; and the throwster during these years has been confronted more or less with the problem of constantly increasing wages demanded by operatives, and decreasing prices paid by the manufacturers.

As regards machinery, the principal efforts have been to save space and processes; winding frames have been improved so as to produce more perfectly wound spools at higher speed, and obviate the necessity for redrawing. In the latest improved winding frame the bobbin is carried by a spindle having two heads resting upon the driving wheels, its bearings being supported upon inclined planes that sustain most of the weight, yet force the spindle into sufficient contact with the friction

wheel to secure a positive drive, the double support allowing high speed without throwing out the spindle.

Double-decking the winding frame has also been adopted by some to economize space and has some merits, though not generally adopted.

The doubling frame has also been perfected, allowing the work to be done at about double the speed and with better results; the old "flyer" and "jack-pin" system has been displaced by a cap on the bobbin, by means of which the thread can be drawn off naturally and the desired tension applied alike upon the assembled threads.

In spinning, the belt system, so called, where the spindles are driven by contact with an endless belt instead of with bands, has been adopted in all new installations. The many advantages of this type of frame were at once recognized, and at the present date over one-half of the spinning spindles in the country are of this system, although only first practically introduced in 1889. This belt-drive system adapted to the modern self-oiling spindle instantly won favor and adoption. A double-deck machine of this type quickly followed, giving double the number of spindles in the same space, still further solving the problem of economy and being generally adopted. In 1895 a combined spinner and doubler was designed, and it was soon evident that this invention had solved another great expense-saving problem and at the same time effected an improvement in the quality of the product. In the few years the last system has been practically upon the market 90,000 spindles have been put in use, or 15 per cent of the total number of first-time spindles. The system has, moreover, been introduced into several foreign countries, and it has been adopted by the technical schools of England and Switzerland as the most practical system of spinning organzine. This is a very substantial acknowledgment of the superiority of United States machinery for silk throwing over that of the rest of the world.

During the past ten years efforts have been made to solve the problem of spinning, doubling, and twisting organzine in one process, which have finally resulted in the production of a practical machine, but of the old band-drive system. A machine for this system of the belt-drive type, for which is claimed greater simplicity combined with increased effectiveness, has also been designed. It is too early as yet to say what the future of these machines will be, but they promise a large percentage of saving in the cost of production, with a decided improvement in quality, and at the same time a reduction in the cost of the equipment of a plant.

While during the past decade there have not been such great changes in throwing appliances as distinguished previous decades, there have been many marked improvements on the lines so briefly mentioned, and it can be said, from personal observation in many of the largest spinning mills in Europe, that in every step of

this branch of the silk industry the United States excels; our operatives tend a larger number of spindles; and, in spite of the higher wages paid here, the cost of production, pound for pound, aside from fuel and rents, will in nearly every case prove to be the lowest in the world.

The results from improvements in throwing machinery during the past decade can therefore be broadly summed up in the statement that these improvements have made possible a saving of about 40 per cent in the floor space needed and about 20 per cent in cost of production over the older system, figuring all the savings resulting from less floor space, power, and processes required to turn out a corresponding amount of work.

**WEAVING.**—The rapid strides made in the development of the power loom, together with the skill of American labor, have made the substitution of power looms for hand looms, which has been a noticeable feature of the industry for the last three decades, especially marked during the past decade, so much so that the statistics indicate the practically complete supersession of the hand loom by the power loom, there being in use, as reported, but 173 of the former as compared with 44,257 of the latter.

There are in successful operation in the silk mills of the United States to-day nearly two and a half times as many power looms as there were ten years ago. While improvements have been made constantly in the construction of these power looms ever since their introduction, probably the past ten years have witnessed the most rapid strides in this direction. These improvements have resulted in the production of a loom of high efficiency, equipped with mechanical devices designed for the saving of both time, labor, and material, such as the numerous multipliers, two-weave, leno, swivel, embroidery motions, and many other devices, all arranged to operate automatically, by the use of which marvelous results may be obtained.

Formerly the accomplishment of some of the above results, if possible at all on the power loom, required the use of a long pattern or indicator chain. Some of the principal progress has consisted in the invention of devices for facilitating the saving of such materials as this pattern or indicator chain. By dispensing with this long and cumbersome attachment the loom is made capable of much higher speed.

Among the multipliers particularly worthy of mention, in addition to the well-known multiplier for the box chain, whereby any shuttle box may be called at will, and any color used as long as desired, is the so-called two-weave multiplier, by the use of which two distinct weaves are produced in the loom and indicated from the same pattern chain.

Another multiplier, known as the manifold multiplier, consists of a mechanical device which, when used in addition to the two-weave motion, makes it possible to

produce three or more distinct weaves in the loom; each weave may be entirely different from the others. In fact, there is hardly any limit to the number of weaves that may be produced by the use of this mechanism, the change from one weave to the other being made automatically when the loom is in full operation.

Among the many other improvements, the progress made in producing leno effects might be mentioned. Present methods and attachments for producing this class of work are far in advance of the old methods, resulting in much saving of doups and in less breakage of warp threads. The old method of using two beams, one for the whip thread and one for the standard thread, is now generally superseded by taking all the threads from one beam, unless the pattern calls for a design in which the whip thread is longer than the standard thread. Slackeners are used only on such threads as require them, instead of rocking the whole warp beam.

The lappet motion has also been successfully applied to different types of looms during recent years, and at the present time these motions are built with one, two, three, and four bars or rows of needles, producing some beautiful effects on the surface of the goods.

The cross-weave loom produces a novel open-work effect in the woven fabric. A series of forked needles engages, as desired, selected groups of warp threads and crosses them over adjacent groups previous to the forming of the shed. After the passing of the shuttle and the beating up of the lay, the warp threads resume their normal position for plain weaving until again called for the cross-over process. A recent improvement produces an undulating or wavy effect by virtue of a movable reed, whose dents are inclined at different angles instead of being parallel, alternate groups of dents spreading upward, and intermediate groups spreading downward, so that the gradual raising and lowering of the reed produces a spreading of the warp threads at one point and a closing up at another.

The embroidery loom was especially designed for the purpose of making a figure on a light ground of cloth while the cloth is being woven, without waste of stock or material. Although the ground may be a light weight of goods, the figure is thick and compact in appearance. This effect can not be produced on a regular broad-silk loom, as the filling, when not wanted to show in the figure, must be buried in the body of the goods, and, moreover, for this reason there is a considerable waste of material.

Swivel looms built to-day have one, two, or three banks of swivel shuttles, so that it is possible to put as many as three colors in each figure at will with almost no loss or waste of material.

The principal difference between the swivel and embroidery looms as built to-day is that in the former the figures are usually arranged a certain distance apart in the goods, while in the latter a figure the entire width of the goods may be made if desired.



Outside of these special features there are many types of what might be termed standard looms used to-day for the manufacture of broad silks. In this connection special mention should be made of the improvement by which all classes of taffeta effects, formerly made on hand looms only, are now successfully made on power looms.

The highest type of loom designed for best grades of fabrics, both plain and fancy, is fitted with a positive head motion by which the harnesses or shafts are positively raised and lowered. The dobby loom is similar in construction to the above-mentioned loom, but a dobby is substituted in place of the positive head motion, the harness shafts being raised by the dobby but pulled down by springs. The cam loom, the harness shafts being controlled by cams which are positive in their action, is somewhat limited in weaves and designs by reason of the weave being dependent on these cams. On the two first-mentioned classes of looms almost any weave may be produced, the head motion or the dobby being controlled by means of a pattern chain which can be changed or made over at will. On the Jacquard loom the weave is controlled entirely by the Jacquard. On all of these types of looms shuttle-box motions of different capacities may be employed, allowing the use of from one to seven colors.

In the Jacquard, which forms so important a factor in the production of broad silks, there has been nearly as much improvement as in the loom itself, particularly as regards the saving of cards and increased speed. The present double-cylinder cross-border machine accomplishes about the same result on the loom as does the manifold multiplier described above. Attachments are now added to the Jacquard so that, through a suitable intermediate mechanism, the pattern or box chain is not required at all on the loom, the Jacquard cards being so punched that the shuttle boxes are controlled by the Jacquard, thus obviating the possibility of the Jacquard getting out of time with the shuttle boxes of the loom.

In addition to the many improvements referred to in looms designed for broad silks, the changes that have taken place in the development of the ribbon loom must not be overlooked. These looms, as built to-day, are capable of very high speed, and show a great advance over the "Swiss" and "German" types of looms which were almost universally used in this country ten or fifteen years ago. The modern ribbon loom was first designed and built in this country and has been constantly improved, until to-day it has reached a very high state of perfection. Under the old method of handling the warp it was necessary to employ men on the looms. Under the present arrangement of the loom the warp is placed on beams similar to broad-silk looms, and each individual warp is let off automatically from each beam, making it entirely unnecessary for the weaver to go behind the loom for this purpose.

The best type of ribbon loom, the high-speed auto-

matic, embodies all the latest improvements of construction; it is adapted to high-grade Jacquard work, where high speed has been slow of adoption, and to single-shuttle Jacquard work on labels, etc.; it has the automatic let-off system for the warps, is capable of a more uniform weave than the old machine, and has greater productive capacity.

There has recently been perfected a very efficient silk-velvet ribbon loom which is destined to fill a very important place in the ribbon industry. This loom will produce the best quality of silk-velvet ribbon at a very high speed for this class of work, the pile being cut automatically in the loom. It is one of the latest triumphs of American skill in the art of weaving.

The modern power loom is the result of much study and inventive genius, and with it to-day can be produced many fabrics which ten years ago it was impossible to make except by hand. Nowhere has this development been so pronounced and successful as in the United States.

#### DATE OF THE ESTABLISHMENT OF THE SILK INDUSTRY IN CITIES, TOWNS, ETC.

Incident to the growth of the industry, silk mills have been established in nearly all the New England and Middle states and in some of the Western and Southern states. Pennsylvania has been the greatest gainer in this respect during the last decade. Delaware, Virginia, and North Carolina have also attracted silk mills by liberal inducements to manufacturers.

The dates of starting the silk industry in the Nineteenth century in some of the more important places in various states, and the classes of goods, are shown in the following statement. It should be understood that in order to avoid duplication of towns in this statement only the first date at which any branch of the industry was inaugurated is given. Thus, in Philadelphia, when W. H. Horstman commenced the manufacture of dress trimmings, 1815 is mentioned, whereas the commencement there of the manufacture of sewing silk in 1843 and of ribbons in 1852 are omitted.

YEAR.	Place.	Class of goods.
PENNSYLVANIA.		
1815.....	Philadelphia .....	Dress trimmings.
1879.....	Scranton .....	Tram and organzine.
1880.....	Hawley .....	Tram, organzine, and broad silks.
1881.....	Allentown .....	Broad silks.
1881.....	Darby .....	Spun-silk yarns.
1883.....	Easton .....	Tram and organzine.
1886.....	Bethlehem .....	Tram and organzine.
1886.....	Catasauqua .....	Spun silk, laces, and braids.
1886.....	Harrisburg .....	Tram, organzine, and broad silks.
1886.....	East Mauch Chunk.....	Tram, organzine, broad silks, and ribbons.
1886.....	South Bethlehem.....	Tram, organzine, and broad silks.
1886.....	Stroudsburg .....	Tram and organzine.
1886.....	Wilkesbarre .....	Surah and figured pongees.
1887.....	Honesdale .....	Tram, organzine, broad silks, and ribbons.
1887.....	Pittston .....	
1887.....	Pottsville .....	Tram and organzine.
1887.....	Reading .....	Tram, organzine, and broad silks.
1888.....	Altoona .....	Tram and organzine.
1888.....	Bloomburg .....	Tram, organzine, and broad silks.
1888.....	Weatherly .....	Tram and organzine.
1891.....	Carlisle .....	Tram and organzine.
1891.....	Eden .....	Silk and cotton curtains.

YEAR.	Place.	Class of goods.	YEAR.	Place.	Class of goods.
PENNSYLVANIA—continued.			NEW JERSEY—continued.		
1892.....	Columbia.....	Tram, organzine, and broad silks.	1880.....	Hackensack.....	Broad silks.
1892.....	Hanover.....	Silk ribbons.	1881.....	Dover.....	Tram and organzine.
1893.....	Emaus.....	Broad silks.	1886.....	Phillipsburg.....	Broad and dress silks.
1893.....	Williamsport.....	Broad silks.	1887.....	Hackettstown.....	Tram and organzine.
1894.....	Hallstead.....	Ribbons and narrow fabrics.	1888.....	Stirling.....	Broad silks.
1895.....	Carbondale.....	Tram and organzine.	1888.....	Midland Park.....	Tie and dress silks.
1895.....	Taylor.....	Tram and organzine.	1889.....	Port Cram.....	Silk linings and dress silks.
1896.....	Avoca.....	Dress silks.	1889.....	Lakeview.....	Umbrella silks, vells and veiling, and black taffetas.
1896.....	Marietta.....	Broad silks.	1889.....	Pompton Lakes.....	Dyeing and finishing silk piece goods.
1896.....	Sunbury.....	Brocades.	1890.....	Guttenberg.....	Taffetas, furriers' satin, and brocades.
1897.....	Alburtis.....	Dress and tie silks.	1891.....	Lodi.....	Broad silks.
1897.....	Bath.....	Tram and organzine.	1891.....	Washington.....	Dress silks.
1897.....	Danville.....	Broad silks.	1893.....	Summit.....	Tram and organzine.
1897.....	Ephrata.....	Broad silks.	1894.....	Jersey City.....	Dress silks.
1897.....	Fleetwood.....	Tram and organzine.	1895.....	Belvidere.....	Tram and organzine.
1897.....	Freeland.....	Tram and organzine.	1895.....	Watessing.....	Dress silks and linings.
1897.....	Plymouth.....	Sewing silk.	1896.....	Newton.....	Broad silks.
1897.....	Pottstown.....	Ribbons.	1898.....	Passaic.....	Silk veillings.
1897.....	Titusville.....	Broad and tie silks.	1899.....	Plainfield.....	Dress silks.
1898.....	Athens.....	Tram, organzine, and broad silks.	1900.....	Hillsdale.....	Broad silks.
1898.....	Coatesville.....	Plain and dress silks.	ILLINOIS.		
1898.....	Dunmore.....	Umbrella silks.	1864.....	Chicago.....	Dress trimmings.
1898.....	Hazleton.....	Tram and organzine.	1899.....	Alpine.....	Silk curtains.
1898.....	Jermyn.....	Broad silks.	NEW YORK.		
1898.....	Lancaster.....	Dress goods.	1880.....	New York.....	Dress trimmings.
1898.....	Newberry.....	Broad and tie silks.	1841.....	Auburn.....	Sewing silk.
1898.....	New Holland.....	Broad silks.	1866.....	Oneida.....	Silk laces.
1898.....	New Hope.....	Tram and organzine.	1871.....	Brooklyn.....	Ribbons.
1898.....	Parsons.....	Tram, organzine, and ribbons.	1872.....	College Point.....	Spun silk.
1898.....	Phoenixville.....	Tram and organzine.	1882.....	Sloatsburg.....	Tram and organzine.
1898.....	West Pittston.....	Tram, organzine, and ribbons.	1885.....	Hornellsville.....	Silk gloves and mittens.
1898.....	York.....	Ribbons.	1886.....	Fultonville.....	Ribbons.
1899.....	Aquashicola.....	Tram, organzine, handkerchiefs, and mufflers.	1887.....	Norwich.....	Silk plushes.
1899.....	Dickson City.....	Organzine.	1887.....	Whitehall.....	Tram and organzine.
1899.....	Forest City.....	Tram and organzine.	1888.....	Long Island City.....	Tram, organzine, and sewing silk.
1899.....	Kutztown.....	Dress and umbrella silks.	1889.....	Matteawan.....	Seal plushes.
1899.....	Lansdale.....	Ribbons.	1891.....	Spring Valley.....	Tram and organzine.
1899.....	Lehighton.....	Broad silks.	1891.....	Clark Mills.....	Broad silks.
1899.....	Lock Haven.....	Broad silks.	1892.....	Elmira.....	Labels, etc.
1899.....	Reynoldsville.....	Pongees and surahs.	1892.....	Delhi.....	Ribbons.
1899.....	Richland Center.....	Dress and tie silks.	1892.....	West New Brighton.....	Tram and organzine.
1899.....	Shamokin.....	Tram and organzine.	1892.....	Unionville.....	Pongees, surah, taffetas, linings, and broad silks.
1900.....	Topton.....	Dress silks.	1892.....	Fort Plain.....	Dress silks.
1900.....	Bradford.....	Broad silks.	1893.....	Newburg.....	Tram and organzine.
1900.....	Butler.....	Ribbons.	1896.....	Watertown.....	Dress silks.
1900.....	Meadville.....	Ribbons.	1897.....	Port Jervis.....	Tram and organzine.
1900.....	Pennsburg.....	Tram and organzine.	1897.....	Yonkers.....	Ribbons.
1900.....	Renovo.....	Broad silks.	1899.....	Fort Hunter.....	Novelties and linings.
1900.....	Weissport.....	Tram and organzine.	1899.....	Glendale.....	Ribbons.
1900.....	White Haven.....	Tram and organzine.	1899.....	Haverstraw.....	Dress silks.
MARYLAND.			1899.....	Oneonta.....	Broad silks.
1820.....	Baltimore.....	Ribbons.	CALIFORNIA.		
1889.....	Hagerstown.....	Ribbons.	1870.....	San Francisco.....	Sewing silk and fringe silk.
1898.....	Ilchester.....	Pongees.	MAINE.		
MASSACHUSETTS.			1874.....	Westbrook.....	Spool silks.
1832.....	Northampton.....	Sewing silk.	UTAH.		
1834.....	Boston.....	Dress trimmings.	1884.....	Salt Lake City.....	Handkerchiefs and dress goods.
1834-38.....	Florence.....	Sewing silk.	OHIO.		
1835.....	Dedham.....	Sewing silk.	1886.....	Piqua.....	Silk hosiery.
1840.....	Canton.....	Sewing silk.	1893.....	Toledo.....	Knit goods.
1848.....	Skinnerville.....	Sewing silk.	MICHIGAN.		
1874.....	Holyoke.....	Sewing silk, braids, and linings.	1887.....	Belding.....	Sewing silk.
1878.....	Pittsfield.....	Sewing silk.	1899.....	Detroit.....	Mittens, gloves, and hosiery.
1880.....	Springfield.....	Silk and mohair braids.	WISCONSIN.		
1882.....	Athol.....	Sewing silk.	1887.....	Janesville.....	Silk underwear.
1884.....	Worcester.....	Silk bindings and picot ribbons.	1899.....	Milwaukee.....	Knit goods.
1886.....	Newton Upper Falls.....	Spun-silk yarns.	VIRGINIA.		
1890.....	Sandwich.....	Silk and mohair braids.	1888.....	Petersburg.....	Spinning and dyeing.
CONNECTICUT.			1889.....	Fredericksburg.....	Tram and organzine.
1810.....	Mansfield.....	Sewing silk.	1900.....	Norfolk.....	Broad and tie silks.
1814.....	Gurleyville.....	Sewing silk.	NORTH CAROLINA.		
1835.....	Hartford.....	Silk and tuscan braid.	1888.....	Wadesboro.....	Tram and organzine.
1838.....	South Manchester.....	General silk manufacture.	1899.....	Fayetteville.....	Dress and tie silks.
1838.....	Windsor Locks.....	Sewing silk.	1900.....	Roanoke Rapids.....	Wide pongees.
1844.....	South Coventry.....	Sewing silk.	RHODE ISLAND.		
1849.....	Watertown.....	Sewing silk.	1889.....	Pawtucket.....	Silk-mixed linings.
1863.....	Rockville.....	Sewing silk.	1897.....	Newport.....	Elastic webbing.
1866.....	Williamantic.....	Sewing silk.	1899.....	Weymouth.....	Lining silks.
1872.....	Middletown.....	Machine twist and sewing silk.	1900.....	Bristol.....	Curtains and portières
1878.....	West Winsted.....	Sewing silk.	NEW HAMPSHIRE.		
1874.....	Norfolk.....	Sewing silk.	1891.....	Contoocook.....	Tram and organzine.
1874.....	Warehouse Point.....	Sewing silk.	1898.....	Newmarket.....	Silk and cotton mulls and pongees.
1878.....	Putnam.....	Machine twist.	1898.....	Lebanon.....	Underwear.
1879.....	New London.....	Sewing silk.	1900.....	Lisbon.....	Cotton and silk covered wire.
1882.....	Bridgeport.....	Dress silks.	DELAWARE.		
1882.....	Preston.....	Tram and organzine.	1899.....	Dover.....	Dress silks.
1891.....	Norwich.....	Ribbons and hatbands.	1899.....	Wilmington.....	Black and colored taffetas.
1892.....	Stoughton.....	Silk velvets.			
1898.....	Mystic.....	Silk velvets.			
1898.....	Shelton.....	Silk velvets and ribbons.			
NEW JERSEY.					
1840.....	Paterson.....	General silk manufacture.			
1842.....	Newark.....	Sewing silk.			
1865.....	Trenton.....	Coach lace.			
1868.....	Hoboken.....	Silk dress goods.			
1868.....	Homestead.....	Broad silks.			
1870.....	West Hoboken.....	Broad silks.			
1874.....	Wortendyke.....	Silk handkerchiefs and dress goods.			
1875.....	Union.....	Silk dress goods.			
1880.....	Boonton.....	Tram, organzine, and broad silks.			



TABLE 23.—SILK AND SILK GOODS, INCLUDING

	United States.	California.	Connecticut.	Illinois.
1 Number of establishments.....	483	5	38	4
2 Character of organization:				
3 Individual.....	132	3	14	1
4 Firm and limited partnership.....	154	1	4	
4 Incorporated company.....	197	1	20	3
5 Capital:				
6 Total.....	\$31,082,201	\$308,847	\$12,166,775	\$259,540
7 Land.....	\$2,045,093	\$3,600	\$282,294	\$15,000
8 Buildings.....	\$10,205,812	\$29,726	\$1,597,352	\$25,000
9 Machinery, tools, and implements.....	\$20,750,449	\$44,161	\$2,061,799	\$95,959
9 Cash and sundries.....	\$48,080,847	\$231,360	\$3,225,330	\$123,581
10 Proprietors and firm members.....	477	6	23	1
11 Salaried officials, clerks, etc.:				
12 Total number.....	2,657	6	323	33
12 Total salaries.....	\$3,184,852	\$4,998	\$403,423	\$51,180
13 Officers of corporations—				
14 Number.....	304		29	5
14 Salaries.....	\$769,771		\$103,090	\$13,000
15 General superintendents, managers, clerks, etc.—				
16 Total number.....	2,853	6	204	23
16 Total salaries.....	\$2,864,681	\$4,998	\$300,333	\$33,180
17 Men—				
18 Number.....	2,078	5	257	24
18 Salaries.....	\$2,240,552	\$4,530	\$284,352	\$35,200
19 Women—				
20 Number.....	275	1	37	4
20 Salaries.....	\$124,029	\$468	\$15,981	\$2,080
21 Wage-earners, including pieceworkers, and total wages:				
22 Greatest number employed at any one time during the year.....	75,110	142	7,400	507
23 Least number employed at any one time during the year.....	56,959	82	5,833	315
24 Average number.....	65,416	117	6,514	412
24 Wages.....	\$20,982,194	\$33,055	\$2,392,878	\$121,644
25 Men, 16 years and over—				
26 Average number.....	24,206	24	2,763	81
26 Wages.....	\$10,699,483	\$14,436	\$1,350,543	\$43,475
27 Women, 16 years and over—				
28 Average number.....	34,797	91	3,585	310
28 Wages.....	\$9,377,696	\$18,119	\$1,013,498	\$73,919
29 Children, under 16 years—				
30 Average number.....	6,413	2	166	21
30 Wages.....	\$905,016	\$500	\$28,832	\$4,250
Average number of wage-earners, including pieceworkers, employed during each month:				
31 Men, 16 years and over—				
32 January.....	24,197	25	2,677	82
32 February.....	24,729	26	2,710	82
33 March.....	25,024	26	2,708	83
34 April.....	25,200	23	2,785	86
35 May.....	24,752	23	2,745	86
36 June.....	23,855	22	2,618	66
37 July.....	23,792	18	2,711	65
38 August.....	23,829	22	2,730	75
39 September.....	23,797	24	2,855	81
40 October.....	23,749	26	2,947	88
41 November.....	23,801	27	2,967	86
42 December.....	23,747	27	2,701	81
43 Women, 16 years and over—				
44 January.....	34,742	98	3,501	319
44 February.....	35,340	95	3,581	367
46 March.....	36,221	91	3,659	363
46 April.....	36,038	86	3,719	356
47 May.....	35,352	86	3,658	293
48 June.....	34,402	82	3,534	265
49 July.....	33,822	64	3,542	238
50 August.....	34,137	88	3,515	253
51 September.....	34,045	91	3,497	288
52 October.....	34,309	99	3,589	340
53 November.....	34,517	106	3,662	335
54 December.....	34,639	105	3,566	306
55 Children, under 16 years—				
56 January.....	6,260	2	149	21
56 February.....	6,267	2	155	23
57 March.....	6,410	2	164	23
58 April.....	6,564	1	169	27
59 May.....	6,537	1	164	25
60 June.....	6,502	1	164	19
61 July.....	6,417	1	163	15
62 August.....	6,381	1	164	14
63 September.....	6,386	1	170	19
64 October.....	6,349	2	170	22
65 November.....	6,429	2	187	23
66 December.....	6,454	2	177	21
67 Weavers:				
68 Broad silk—				
68 Men.....	8,917		448	
69 Women.....	9,188		441	
69 Children.....	235			
70 Ribbons—				
71 Men.....	3,725		21	
71 Women.....	1,467		200	
72 Children.....	21		7	
73 Velvets and plushes—				
74 Men.....	881		565	
74 Women.....	510		141	
75 Children.....	150			
76 Other—				
77 Men.....	1,837		412	
77 Women.....	1,892		367	
78 Children.....	261		32	

## SILK.

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## BRAIDS AND TRIMMINGS, BY STATES: 1900.

Massachusetts.	New Jersey.	New York.	North Carolina.	Pennsylvania.	Rhode Island.	Virginia.	All other states. <sup>1</sup>
20	180	92	3	121	6	3	11
6	51	32	1	19	3	1	1
8	63	84	2	47	3	1	1
11	66	26	2	55	3	1	9
\$5,649,758	\$29,285,792	\$9,800,207	\$130,376	\$20,894,023	\$680,252	\$594,359	\$1,312,272
\$216,341	\$733,367	\$202,138	\$6,200	\$491,598	\$24,955	\$12,600	\$57,000
\$756,454	\$2,966,084	\$586,224	\$52,000	\$3,683,545	\$96,224	\$174,440	\$233,763
\$707,345	\$7,297,856	\$3,061,252	\$40,525	\$6,696,158	\$165,032	\$210,200	\$370,102
\$3,969,618	\$18,288,485	\$5,950,593	\$31,651	\$10,017,722	\$394,041	\$197,119	\$651,947
11	197	94	1	181	3	2	8
156	959	363	11	745	8	12	41
\$227,276	\$1,144,512	\$514,439	\$3,455	\$718,776	\$12,320	\$12,678	\$41,295
20	98	41	6	88	3	1	13
\$51,850	\$269,368	\$163,891	\$875	\$144,462	\$9,200	\$1,000	\$13,035
136	861	322	5	657	5	11	28
\$175,426	\$575,144	\$350,518	\$2,580	\$574,314	\$3,120	\$11,678	\$28,260
115	787	298	5	549	4	10	24
\$166,772	\$840,337	\$338,784	\$2,580	\$528,243	\$2,320	\$11,314	\$26,120
21	74	24	108	108	1	1	4
\$8,654	\$34,807	\$11,764	\$46,071	\$46,071	\$800	\$364	\$2,140
3,465	27,162	9,330	265	24,424	563	518	1,334
2,953	20,784	6,563	255	18,496	365	429	834
3,110	24,157	7,861	209	21,028	455	473	1,080
\$1,110,324	\$9,232,532	\$2,861,818	\$25,420	\$4,629,626	\$166,675	\$165,056	\$308,171
1,102	11,279	3,149	35	5,214	124	144	291
\$506,282	\$5,296,102	\$1,509,660	\$8,827	\$1,718,587	\$82,240	\$61,294	\$108,037
1,837	11,679	4,299	119	11,665	326	228	758
\$562,989	\$3,731,827	\$1,293,875	\$13,331	\$2,363,123	\$83,664	\$31,885	\$191,466
171	1,199	413	55	4,249	5	101	81
\$41,053	\$204,603	\$58,283	\$3,202	\$547,916	\$771	\$11,877	\$3,668
1,067	11,247	3,266	38	5,262	109	137	287
1,094	11,540	3,361	38	5,326	118	147	287
1,099	11,678	3,429	38	5,402	114	150	294
1,100	11,699	3,366	48	5,534	108	149	302
1,089	11,605	3,165	48	5,455	123	145	298
1,057	11,324	2,805	20	5,077	124	148	271
1,078	11,395	2,889	20	5,064	128	147	264
1,095	11,237	5,032	20	5,043	125	143	286
1,116	10,984	3,095	20	5,005	131	145	303
1,144	10,786	3,186	38	5,054	138	132	309
1,153	10,791	3,101	38	5,027	137	145	302
1,131	11,070	3,077	38	5,027	138	134	323
1,776	11,696	4,492	138	11,617	224	221	660
1,855	11,861	4,501	138	11,788	231	221	702
1,951	12,055	4,098	138	12,019	256	222	769
1,934	12,012	4,515	158	11,989	276	221	772
1,870	11,946	4,149	158	11,873	290	212	777
1,732	11,701	3,920	138	11,747	350	249	684
1,697	11,683	3,944	50	11,264	354	241	745
1,732	11,564	4,132	50	11,455	346	239	763
1,835	11,878	4,266	50	11,248	369	240	783
1,921	11,261	4,376	138	11,145	384	229	827
1,841	11,427	4,824	138	11,270	391	222	801
1,901	11,561	4,266	138	11,364	400	218	814
143	1,164	408	54	4,184	3	101	31
157	1,157	406	54	4,163	3	104	43
153	1,175	428	54	4,248	3	108	47
170	1,230	445	59	4,316	4	103	40
168	1,221	430	59	4,326	4	112	27
165	1,203	408	54	4,363	10	93	28
170	1,212	411	54	4,256	9	102	23
167	1,219	398	54	4,288	8	95	22
176	1,216	397	54	4,219	3	101	25
198	1,190	390	54	4,202	3	96	27
195	1,201	420	54	4,212	3	103	29
190	1,202	421	54	4,256	3	100	28
301	5,491	899	38	1,645	74	12	59
208	3,548	824	38	3,777	156	12	181
40	1,762	1,014	203	191	885	517	43
502	3	10	109	1	149	344	5
48	5	20	149	150	278	20	12
10	691	351	341	59	278	20	12
34	763	450	278	59	278	20	12
8	75	86	59	59	278	20	12

<sup>1</sup>Includes establishments distributed as follows: Delaware, 2; Maine, 1; Maryland, 2; Michigan, 2; New Hampshire, 2; Utah, 2.

TABLE 23.—SILK AND SILK GOODS, INCLUDING

	United States.	California.	Connecticut.	Illinois.
<b>Spinners, etc.:</b>				
79 Men .....	7,332	11	1,268	
80 Women .....	19,513	60	1,990	
81 Children .....	4,955		227	
<b>Miscellaneous expenses:</b>				
82 Total .....	\$10,264,208	\$4,113	\$637,450	\$42,410
83 Rent of works .....	\$591,807	\$2,220	\$30,202	\$7,950
84 Taxes, not including internal revenue .....	\$238,116	\$680	\$36,506	\$1,074
85 Rent of offices, insurance, interest, and all sundry expenses not hitherto included .....	\$2,863,986	\$1,213	\$353,439	\$19,720
86 Contract work .....	\$6,570,299		\$217,253	\$12,766
<b>Materials used:</b>				
87 Total cost .....	\$62,406,665	\$146,219	\$7,198,008	\$187,514
88 <b>Silk—</b>				
89 Raw, pounds .....	9,760,770	30,425	1,159,961	
90 Cost .....	\$40,721,877	\$113,885	\$4,537,720	
91 Spun, pounds .....	1,550,291	725	502,558	4,225
92 Cost .....	\$3,406,059	\$2,380	\$998,566	\$12,724
93 Artificial, pounds .....	6,056			10
94 Cost .....	\$10,389			\$55
95 Waste, pounds .....	1,667,195		749,036	
Cost .....	\$734,539		\$404,183	
96 <b>Other textile yarns—</b>				
97 Cotton, pounds .....	6,444,208	8,500	1,187,863	255,247
98 Cost .....	\$1,830,550	\$2,675	\$338,836	\$36,950
99 Mercerized cotton, pounds .....	219,861	650	1,642	7,178
100 Cost .....	\$165,633	\$655	\$1,416	\$3,113
101 Wool, pounds .....	239,401	150	401	65,190
102 Cost .....	\$167,770	\$160	\$829	\$35,702
103 Mohair, pounds .....	104,810	380	1,236	6,992
104 Cost .....	\$107,365	\$545	\$1,543	\$10,024
105 Other, pounds .....	108,383		2,024	7,250
Cost .....	\$134,986		\$4,596	\$10,000
106 <b>Silk purchased in partially manufactured form—</b>				
107 Organzine and tram, pounds .....	2,338,464	980	31,041	4,713
108 Cost .....	\$10,539,632	\$7,320	\$154,831	\$21,139
109 Fringe and floss, pounds .....	67,934	250	743	8,905
110 Cost .....	\$274,403	\$1,100	\$4,161	\$29,903
111 Fuel .....	\$549,493	\$1,382	\$90,937	\$2,500
112 Rent of power and heat .....	\$135,509	\$600	\$5,980	\$530
113 Mill supplies .....	\$994,769	\$8,684	\$155,982	\$1,624
114 All other materials .....	\$2,406,123	\$3,371	\$427,544	\$23,250
Freight .....	\$228,522	\$3,472	\$21,334	
<b>Raw silk thrown under contract:</b>				
115 Organzine, pounds .....	2,331,456		184,270	
116 Tram, pounds .....	1,967,203		69,588	
<b>Products:</b>				
117 Total value .....	\$107,256,258	\$255,902	\$12,378,981	\$421,088
118 Organzine and tram made for sale, pounds .....	2,468,357	2,000	92,000	
119 Value .....	\$11,167,191	\$5,000	\$502,520	
120 Spun silk yarn made for sale, pounds .....	437,450		166,265	
121 Value .....	\$1,026,227		\$398,671	
122 Machine twist, pounds .....	987,917	22,742	545,423	
123 Value .....	\$5,997,974	\$163,742	\$3,864,546	
124 Sewing, embroidery, and wash silks, pounds .....	477,653	5,200	145,032	
125 Value .....	\$3,276,826	\$47,400	\$977,213	
126 Fringe and floss silks, pounds .....	261,643		95,806	
127 Value .....	\$971,390		\$217,043	
<b>Broad silk goods—</b>				
128 Plain and fancies—				
129 All silk, yards .....	53,573,488	800	1,435,439	
130 Value .....	\$33,832,111	\$800	\$1,075,166	
131 Silk mixed, yards .....	5,963,315		415,648	
Value .....	\$5,460,710		\$209,937	
132 Jacquard—				
133 All silk, yards .....	7,532,229	800	7,563	
134 Value .....	\$5,379,001	\$800	\$3,903	
135 Silk mixed, yards .....	1,677,466		93,264	
Value .....	\$1,260,321		\$63,117	
136 Piece-dyed—				
137 All silk, yards .....	7,331,501		3,371,127	
138 Value .....	\$3,342,167		\$1,531,724	
139 Silk mixed, yards .....	8,568,834		147,833	
Value .....	\$2,863,506		\$98,720	
140 Other broad goods—				
141 Velvets, yards .....	5,122,249		4,261,208	
142 Value .....	\$2,479,903		\$2,087,639	
143 Plushes, yards .....	3,848,684		1,011,457	
144 Value .....	\$2,480,068		\$687,079	
145 Tapestries, yards .....	321,978		69,973	
146 Value .....	\$180,503		\$84,503	
147 Upholstery, yards .....	1,011,141			
Value .....	\$829,332			
148 Ribbons and laces—				
149 Ribbons, value .....	\$18,467,170		\$655,807	
150 Laces, nets, veils, veiling, etc., value .....	\$893,104			
151 Embroideries, value .....	\$57,625	\$1,000		
152 Fringes and gimps, value .....	\$444,787	\$4,000		\$46,477
153 Brads and bindings, value .....	\$1,522,565	\$6,500	\$38,685	\$249,062
<b>Trimings—</b>				
154 Tailors', value .....	\$26,624			\$6,000
155 Ladies', value .....	\$912,361	\$8,000		\$43,461
156 Cloak, value .....	\$241,560			\$31,060
157 Milliners', value .....	\$615,012	\$5,000		\$35,000
158 Military, value .....	\$54,666	\$3,100		\$6,346
159 Other trimmings products, value .....	\$183,853	\$6,000		\$3,802
160 Other products, value .....	\$1,027,472	\$160	\$192,744	
Received for contract work .....	\$2,337,220	\$200	\$136,362	

## BRAIDS AND TRIMMINGS, BY STATES: 1900—Continued.

Massachusetts.	New Jersey.	New York.	North Carolina.	Pennsylvania.	Rhode Island.	Virginia.	All other states. <sup>1</sup>	
449	3,180	501	34	1,587	20	131	151	79
1,186	6,722	2,070	73	6,481	151	216	564	80
158	813	206	54	3,870	2	101	24	81
\$382,745	\$4,896,595	\$1,601,527	\$5,159	\$2,451,820	\$103,454	\$15,300	\$123,635	82
\$13,837	\$241,838	\$182,323	\$2,000	\$96,547	\$13,925		\$965	83
\$29,583	\$97,665	\$27,587	\$86	\$36,330	\$3,013	\$1,168	\$3,524	84
\$179,306	\$1,120,458	\$512,228	\$1,873	\$610,872	\$7,916	\$12,697	\$44,214	85
\$160,019	\$3,436,684	\$879,389	\$1,200	\$1,708,071	\$78,600	\$1,435	\$74,982	86
\$3,823,963	\$21,631,118	\$6,570,037	\$99,403	\$19,884,869	\$818,561	\$720,525	\$1,326,448	87
720,485	3,155,334	914,265	20,200	8,238,285	102,691	164,200	254,924	88
\$2,808,545	\$13,514,501	\$3,814,768	\$90,282	\$13,534,387	\$490,750	\$653,045	\$1,073,994	89
40,136	178,785	263,200	1,100	477,543	51,516		30,553	90
\$96,583	\$583,612	\$562,322	\$3,080	\$979,508	\$186,404		\$80,882	91
170		5,350		526				92
\$420		\$6,790		\$3,115				93
418,355		287,880		186,424	25,000		500	94
\$177,480		\$86,900		\$92,476	\$3,000		\$500	95
480,220	757,486	1,556,545		1,759,759	409,938		28,652	96
\$144,520	\$304,481	\$359,716		\$465,812	\$122,800		\$4,760	97
4,708	122,053	51,560		30,070	2,000			98
\$3,733	\$90,013	\$42,432		\$23,121	\$1,200			99
96,867	16,940	45,527		8,717	2,667		3,002	100
\$69,600	\$15,042	\$86,640		\$5,743	\$2,000		\$2,504	101
17,405		29,697		47,600			1,600	102
\$27,832		\$28,776		\$35,045			\$3,000	103
1,971	480	24,167		31,323			41,178	104
\$12,991	\$170	\$14,364		\$24,097			\$68,768	105
17,681	1,209,012	197,781		871,285	5,711		310	106
\$81,010	\$5,702,506	\$839,657		\$3,701,840	\$29,730		\$1,539	107
675	478	20,606		34,727	1,600			108
\$3,287	\$1,816	\$88,813		\$137,333	\$8,000			109
\$35,205	\$179,280	\$55,635	\$2,382	\$168,409	\$4,676	\$5,417	\$12,670	110
\$3,467	\$68,932	\$40,651		\$15,979	\$1,500	\$1,260	\$1,610	111
\$78,435	\$257,824	\$158,119	\$766	\$277,098	\$1,787	\$37,811	\$16,539	112
\$179,947	\$909,191	\$412,922	\$983	\$364,891	\$14,137	\$17,000	\$53,487	113
\$11,448	\$58,750	\$21,532	\$1,910	\$94,812	\$2,577	\$6,492	\$6,195	114
8,000	585,722	117,981		1,332,758	16,599		26,906	115
	651,900	204,400	73,000	926,915		67,220	5,680	116
						27,710		
\$5,957,532	\$39,966,662	\$12,706,246	\$135,354	\$31,072,926	\$1,311,333	\$931,680	\$2,068,554	117
1,655	315,046	48,263	7,800	1,723,791		277,032		118
\$7,765	\$1,500,060	\$207,500	\$38,062	\$8,011,155		\$892,129		119
104,000		92,046		76,148				120
\$270,400		\$216,503		\$140,653				121
289,241		46,500		49,476			60,535	122
\$1,413,004		\$240,405		\$285,288			\$540,989	123
170,423		18,528		74,475			64,000	124
\$1,246,445		\$113,468		\$451,800			\$440,500	125
20,964	16,611			128,262				126
\$147,773	\$64,444			\$542,130				127
665,153	28,268,970	3,859,029	105,000	17,887,478			1,351,619	128
\$766,054	\$18,871,325	\$2,516,445	\$31,000	\$10,002,648			\$588,673	129
2,020,101	2,331,493	1,047,130		669,877	2,367,487		112,120	130
\$1,437,799	\$1,680,091	\$558,361		\$310,200	\$1,119,159		\$75,163	131
	6,451,655	108,410		908,001			60,800	132
	\$4,722,532	\$115,250		\$505,714			\$30,800	133
	1,466,355	61,426		56,421				134
	\$1,154,365	\$19,008		\$23,831				135
	1,694,675	22,000		1,775,255		59,760	408,684	136
	\$905,942	\$84,561		\$586,448		\$40,904	\$189,593	137
20,384	381,000	2,447,570		5,562,097				138
\$12,434	\$154,500	\$1,039,489		\$1,563,363				139
	111,077	9,515		740,449				140
	\$62,935	\$4,757		\$324,572				141
	555,842	528,705		1,752,590				142
	\$315,540	\$862,191		\$1,114,658				143
	2,000			250,000				144
	\$9,000			\$87,000				145
	281,037	628,843		156,261				146
	\$396,850	\$222,105		\$210,377				147
\$92,000	\$8,341,721	\$4,883,011		\$4,368,399			\$126,241	148
\$33,533	\$423,257	\$377,047		\$2,800				149
\$28,087		\$23,092						150
\$988,339	\$162,595	\$195,528		\$170,695				151
		\$388,391		\$119,573		\$169,480		152
\$8,124								153
\$68,385		\$389,510		\$397,505			\$12,500	154
\$889		\$21,000		\$181,521			\$7,500	155
		\$281,000		\$344,012			\$4,000	156
\$220		\$30,000		\$15,000				157
\$3,000	\$160	\$95,784		\$72,107				158
\$21,053	\$434,501	\$133,622	\$89,893	\$171,349	\$8,400		\$25,750	159
\$9,278	\$766,844	\$238,218	\$26,399	\$1,070,183	\$14,294	\$48,647	\$26,345	160

<sup>1</sup>Includes establishments distributed as follows: Delaware, 2; Maine, 1; Maryland, 2; Michigan, 2; New Hampshire, 2; Utah, 2.

TABLE 23.—SILK AND SILK GOODS, INCLUDING

	United States.	California.	Connecticut.	Illinois.
<b>Machinery:</b>				
161 Spindles, total number .....	1,987,404	3,880	160,743	
Organzine—				
162 First time over, number .....	582,180		15,686	
163 Second time over, number .....	846,145		8,720	
164 Tram, number .....	117,979	88	5,256	
165 Cleaning or polishing, number .....	6,526	44	2,102	
166 Doubling, number .....	185,075	456	14,043	
167 Quilling, number .....	87,742	50	7,361	
168 Reeling, number .....	52,155	84	4,340	
169 Spinning and twisting, number .....	168,189	1,650	60,753	
170 Winding, number .....	442,410	1,008	36,477	
Looms—				
Power—				
171 Total number .....	44,257	2	2,975	27
Plain—				
172 36 inches or over reed space, number .....	13,077		1,660	
173 Under 36 inches reed space, number .....	16,161		777	27
174 German (warps on top) ribbons, number .....	4,471		95	
175 High-speed ribbons, number .....	2,105		194	
Jacquards—				
176 Ribbons, number .....	856		5	
177 Broad silks, number .....	7,587	2	244	
Hand—				
178 Total number .....	178			7
Plain—				
179 36 inches or over reed space, number .....	32			
180 Under 36 inches reed space, number .....	127			7
Jacquards—				
181 Ribbons, number .....	9			
182 Broad silks, number .....	5			
Other machines—				
Power—				
Knitting—				
183 Warp, number .....	108			8
184 Knitting or crochet, number .....	127	1		7
185 Roundhead, number .....	21			
186 Swiss-ribbed, number .....	14			
187 Milanese or traverse, number .....	5			
188 Beamers, number .....	243		54	
189 Braiders, number .....	15,305	21	1,005	3,805
190 Chenille, number .....	180	3	1	9
191 Curtain, number .....	1			
Embroidery—				
192 Shiffle or power, number .....	104			
193 Hand-stitched, number .....	29			
194 Gimp mills, number .....	122		1	7
195 Levers or lace, number .....	64			
196 Sewing, number .....	550	2	15	10
197 Slide cord, number .....	152	5		18
198 Spooling tables, number .....	743	13	238	16
199 Twist, number .....	64	5		2
200 Warping, number .....	3,589	2	187	
201 Other power machines, number .....	99		1	
Hand—				
202 Beamers, number .....	6	1		
203 Braiders, number .....	19			
204 Chenille, number .....	30	12		
Embroidery—				
205 Hand-stitched, number .....	2			
206 Levers or lace, number .....	1			
207 Sewing, number .....	79	2	3	6
208 Slide cord, number .....	3	8		
209 Spooling tables, number .....	144		81	
210 Twist, number .....	16			8
211 Warping, number .....	799	2	7	5
212 Other hand machines, number .....	61		15	
<b>Dyeing, finishing, and printing:</b>				
Skein dyeing—				
Silk—				
213 Colors, pounds .....	1,708,955	750	511,298	
214 Black, pounds .....	1,541,785	26,972	445,999	
Spun—				
215 Colors, pounds .....	425,216		203,181	
216 Black, pounds .....	176,014		62,957	
Cotton—				
217 Colors, pounds .....	925,255		113,830	
218 Black, pounds .....	981,559		450,609	
Wool—				
219 Colors, pounds .....	52,658			
220 Black, pounds .....	55,949			
Piece dyeing—				
221 All silk, yards .....	1,224,329		177,391	
222 Silk and spun, yards .....	459,693		349,693	
223 Silk and cotton, yards .....	2,780,156		1,077,604	
224 Silk and wool, yards .....	350			
Finishing—				
225 All silk, pieces .....	472,584		71,986	
226 Silk and cotton, pieces .....	289,362	40	163,776	
227 Silk and wool, pieces .....	116			
Printing—				
228 Printed in warps, yards .....	16,355		8,855	
Printed in pieces—				
229 All silk, yards .....	846,704		777,618	
230 Silk and spun, yards .....	1,684,524		1,684,524	
231 Silk and cotton, yards .....	537,228		537,228	

## BRAIDS AND TRIMMINGS, BY STATES: 1900—Continued.

Massachusetts.	New Jersey.	New York.	North Carolina.	Pennsylvania.	Rhode Island.	Virginia.	All other states. <sup>1</sup>	
107,312	536,065	136,703	18,790	942,545	4,212	41,798	35,856	161
20,088	153,312	25,208	5,000	340,298		16,696	5,892	162
9,682	92,190	14,352	2,000	205,781		8,400	4,070	163
1,588	30,014	8,404	2,680	65,591		3,276	1,084	164
467	1,023	1,389		799	102		600	165
11,040	50,587	12,977	2,900	85,535	560	4,498	2,474	166
1,910	35,961	9,232	2,000	30,458	60		710	167
3,524	13,367	4,102	158	24,956	80	404	1,143	168
36,782	6,074	15,522		27,181	1,890	1,556	10,781	169
22,238	153,537	46,517	4,052	161,946	1,520	6,968	9,102	170
1,017	20,557	5,175	125	12,920	533	147	779	171
451	4,573	1,510	125	3,709	465	147	437	172
422	7,282	1,175		6,166	68		244	173
144	1,601	1,594		986			61	174
	882	425		604				175
	493	223		195				176
	5,786	248		1,260			47	177
23	15	93		29			6	178
	7	4		18			3	179
23	8	81		8				180
		6		3				181
		2					3	182
		54		46				183
17		39		63				184
		9		12				185
14		5						186
6	97	52	1	128				187
2,876	744	3,889		1,831	1,400		5	188
4	1	50		62			180	189
				1				190
								191
20		84						192
5		24						193
4	44	38						194
	14	50		28				195
9	112	295		103			4	196
81		31		19				197
108	51	49		182	4		82	198
5	7	26		7			12	199
97	1,700	410	8	1,102	37	9	37	200
	40	41		17				201
	1	1		2			1	202
	2	17						203
		18						204
		1		2				205
	35	17		16			1	206
	16	28		19				207
	2	5		1				208
6	304	263		206				209
83	1	12					3	210
								211
								212
263,700	838,582	93,910		29,320			51,395	213
350,083	257,844	54,431		63,023		210,000	123,433	214
71,157	2,139	26,783		110,100	9,912		1,950	215
22,498	90	8,000		73,515	3,304		650	216
122,109	25,640	261,822		400,354			2,000	217
224,642	83,050	25,475		196,723			1,000	218
45,658		5,000					2,000	219
50,949		4,000					1,000	220
	1,046,938							221
	110,000							222
	471,893	533,310		692,289				223
	350							224
	258,128	67,240		57,161	180		7,899	225
	29,767	15,052		65,046	10,721			226
	54			62				227
	7,500							228
	69,086							229
								230
								231

<sup>1</sup>Includes establishments distributed as follows: Delaware, 2; Maine, 1; Maryland, 2; Michigan, 2; New Hampshire, 2; Utah, 2.

## MANUFACTURES.

TABLE 23.—SILK AND SILK GOODS, INCLUDING

	United States.	California.	Connecticut.	Illinois.
Comparison of products:				
232 Number of establishments reporting for both years.....	378	5	35	3
233 Value for census year.....	\$101,474,146	\$255,902	\$12,209,415	\$419,089
234 Value for preceding business year.....	\$90,107,761	\$237,451	\$9,040,107	\$364,896
Power:				
235 Number of establishments reporting.....	475	5	38	4
236 Total horsepower.....	61,395	89	5,490	122
Owned—				
Engines—				
237 Steam, number.....	421	2	56	2
238 Horsepower.....	45,959	82	4,364	100
239 Gas or gasoline, number.....	19		2	
240 Horsepower.....	323		88	
241 Water wheels, number.....	117		18	
242 Horsepower.....	6,666		813	
243 Electric motors, number.....	135		6	
244 Horsepower.....	3,998		75	
245 Other power, horsepower.....	8			
Rented—				
246 Electric, horsepower.....	609	7	85	
247 Other kind, horsepower.....	8,882		65	22
248 Furnished to other establishments, horsepower.....	508		7	
Establishments classified by number of persons employed, not including proprietors and firm members:				
249 Total number of establishments.....	488	5	88	4
250 No employees.....	2	1		
251 Under 5.....	20			1
252 5 to 20.....	66	2	6	
253 21 to 50.....	88	1	7	
254 51 to 100.....	95	1	5	
255 101 to 250.....	123		14	8
256 251 to 500.....	60		3	
257 501 to 1,000.....	28		2	
258 Over 1,000.....	6		1	



## BRAIDS AND TRIMMINGS, BY STATES: 1900—Continued.

Massachusetts.	New Jersey.	New York.	North Carolina.	Pennsylvania.	Rhode Island.	Virginia.	All other states. <sup>1</sup>	
17 \$5,874,880 \$4,605,428	142 \$38,864,902 \$36,205,469	80 \$12,264,525 \$11,543,108	1 \$26,399 \$16,728	81 \$28,129,885 \$24,872,339	5 \$1,226,588 \$532,246	2 \$940,776 \$855,306	7 \$1,761,836 \$1,284,693	232 233 234
19 4,536	180 17,122	87 5,246	3 465	121 25,227	6 250	3 1,688	9 1,175	235 236
24 2,206	111 12,471	45 3,118	8 455	152 21,070	3 190	16 580	7 723	237 238 239
28 2,089	46 38	56 15	7	6 133				240
5 205	1,245 35 1,158	852 17 135		5 620 54 2,017 8	1 80	5 695 18 408	7 872	241 242 243 244 245
86 1	244 1,958 210	73 1,012 80		180 599 110				246 247 248
20	180	92	3	121	6	3	11	249
3	1	6		2				250
2	7	17		9				251
5	27	15		16	1	1	1	252
2	35	20	1	26	2			253
3	36	24		84				254
2	39	10	2	22	1	1	3	255
3	19			9			2	256
	14			3				257
	2							258

<sup>1</sup>Includes establishments distributed as follows: Delaware, 2; Maine, 1; Maryland, 2; Michigan, 2; New Hampshire, 2; Utah, 2.